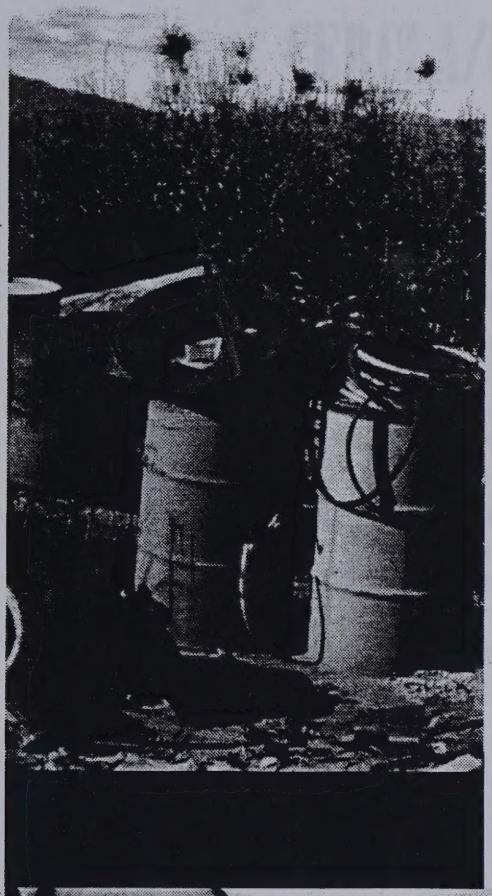
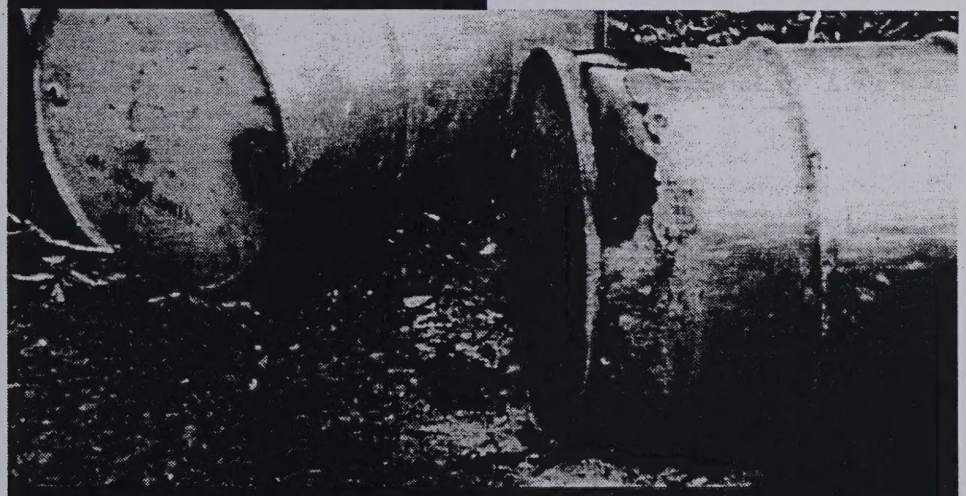
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Hazardous Substance Releases

CERCLA/NCP Process



Bureau of Land Management

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CERCLA/NCP Process

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CHAPTER I

Overview

Overview

The Comprehensive Environmental Response and Liabilities Act (CERCLA) was passed in 1980 to address threats to human health and the environment resulting from releases or potential releases of hazardous substances from uncontrolled hazardous waste sites. CERCLA 120(a) provides that Federal departments, agencies, and instrumentalities, including the Bureau of Land Management (BLM), are subject to CERCLA to the same extent as nongovernment entities.

The National Contingency Plan (NCP) establishes the procedures for responding to discharges of oil and releases of hazardous substances. The NCP (40 CFR 300) is required by Section 105 of CERCLA and Section 311 of the Clean Water Act. Any investigatory or cleanup action taken by the BLM under the authority of CERCLA must be consistent with the NCP.

Executive Order 12580 delegated to the Secretary of the Interior the authority to respond to uncontrolled releases of Hazardous Substances on lands under the jurisdiction of the Department of the Interior. The BLM, on behalf of the Secretary of Interior, acts as a lead agency, as defined in the NCP, for overseeing the evaluation, investigation, and cleanup of hazardous substance releases on public lands, and the recovery of response costs from parties responsible for those releases. The Executive Order also designated the Secretary of the Interior as a Trustee for the natural resources under the jurisdiction of the Department of the Interior that are injured by uncontrolled releases of hazardous substances. The BLM carries out Trustee responsibilities of the Secretary for the resources BLM administers, assessing natural resource injuries, recovering damages, and restoring natural resources in compliance with the regulations set forth in 43 CFR Part 11.

The purpose of this document is to provide guidance to BLM employees on the processes and procedures for responding to uncontrolled releases of hazardous substances on public lands. This document is not a substitute for the laws and regulations governing response to uncontrolled hazardous substance releases. BLM employees with duties related to hazardous substance releases should have a detailed understanding of the laws and regulations discussed in this guidance document. Compliance with these laws and regulations is required.

CHAPTER II

Verification and Evaluation of Hazardous Substance Releases on Public Lands

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1. INTRODUCTION

The purpose of this chapter is to describe the process that should be used for the verification and evaluation of uncontrolled releases of hazardous substances on BLM-administered lands. The process is described verbally in the text of this chapter and visually by means of a flow diagram provided in Appendix A.

The evaluation process described in this chapter should be implemented concurrently with the identification of Potentially Responsible Parties (PRPs) and the cost avoidance/cost recovery process discussed in Chapter 4. When a viable PRP is identified, all remaining actions pertaining to the evaluation of the incident/site and selection of remedies should be completed by the PRP, under the oversight of the United States Environmental Protection Agency (USEPA or EPA), the State, and the BLM.

This chapter is an assemblage of guidance and regulations from other sources and is intended only to provide general guidance in applying the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and National Contingency Plan (NCP) evaluation process to situations involving the release, or the threat of a release, of hazardous substances on BLM-administered surface lands. All BLM personnel responsible for examining and evaluating hazardous substance releases should be knowledgeable of the regulations covered under 40 CFR part 300 and 302 and the USEPA guidance documents referenced throughout this chapter. In addition, BLM personnel should become familiar with state and regional regulatory agency requirements and guidance regarding the evaluation and cleanup of hazardous substance releases within their area of jurisdiction.

Most sites on public lands with suspected or known releases of hazardous substances do not proceed to the advanced evaluation stages of the NCP (e.g., Remedial Site Inspection or Remedial Investigation). Thus, this chapter has emphasized those evaluations conducted early in the NCP process. Site evaluations not justified by previous evaluations or examinations should not be initiated unless directed by the appropriate regulatory authority. Justification for further evaluations should be based primarily on the potential risk to the public, sensitive environments, and critical public land resources.

2. DEFINITIONS

The following definitions are intended to assist in understanding the description of the verification and evaluation process. For the formal definitions of terms, refer to the documents referenced in the definitions.

A. **Release:** Any spill, leak, pumping, pouring, emitting, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance). For purposes of the NCP, release also means the threat of release. The release must involve a hazardous substance, and the release must be of a reportable quantity. (40 CFR 300.5) (40 CFR 302) (CERCLA 100(22))

A release under the NCP does not include:

- Releases within a work place or contained within a building
- Emissions from engine exhaust associated with a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine
- Nuclear material released from a nuclear incident
- Nuclear material from a processing site designated under Section 102(a)(1) or 302(a) of the Uranium Mill Tailings Radiation Control Act (UMTRCA)
- Application of fertilizer in accordance with label specifications and state and local regulations

B. **Environment:** Any surface water, ground water, drinking water supply, soil, subsurface strata, or ambient air. (40 CFR 300.5) (CERCLA 101(8)(5))

C. **Sensitive Environment:** A terrestrial or aquatic resource, fragile natural setting, or other area with unique or highly valued environmental and cultural features (EPA/540-R-93-021). Examples of sensitive environments on public lands could include certain habitats or ecosystems that are valued for their particular features, Threatened and Endangered (T&E) species, Areas of Critical Environmental Concern (ACECs), wetlands, or important historic or scenic areas.

D. **Hazardous Substance:** As defined by Section 101(14) of CERCLA, hazardous substance means any substance designated pursuant to Section 311(b)(2)(A) of the [Clean Water Act] CWA; any element, compound, mixture, solution, or substance designated pursuant to Section 102 of CERCLA (tabulated in 40 CFR 302.4); any hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act (but not including any waste the regulation of which under the Solid Waste Disposal Act has been suspended by Act of Congress); any toxic pollutant listed under Section 307(a) of the CWA; any hazardous air pollutant listed under Section 112

of the Clean Air Act; and any imminently hazardous chemical substance or mixture with respect to which the EPA Administrator has taken action pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas or synthetic gas useable for fuel (or mixtures of natural gas and such synthetic gas). (40 CFR 300.5)

E. Facility:

1. CERCLA: Any building, structure, installation, equipment, pipeline, well, pit, pond, lagoon, impoundment, ditch, landfill, or storage container, or any site where a hazardous substance has come to be located. (40 CFR 300.5)

2. Federal Agency Hazardous Waste Compliance Docket (53 FR 4280): For the BLM, a site (facility) that is potentially contaminated. This definition does not include contiguous public land, only the area of contamination. However, this definition does include private lands proven to be contaminated from a source on public lands. (53 FR 4280)

F. Removal Action (CERCLA): An action that cleans up or removes released hazardous substances from the environment, or any short-term response to minimize or mitigate damage to human health or the environment. (40 CFR 300.415)

'Remove' or 'removal' means the cleanup or removal of released hazardous substances from the environment; such actions as may be necessarily taken in the event of the threat of release of hazardous substances into the environment; such as may be necessary to monitor, assess, and evaluate the release or threat of release of hazardous substances; the disposal of removed material, or the taking of such other actions as may be necessary to prevent, minimize, or mitigate damage to the public health or welfare or to the environment, which may otherwise result from a release or threat of release. The term includes, in addition, without being limited to, security fencing or other methods to limit access, provision of alternative water supplies, temporary evacuation and housing of threatened individuals not otherwise provided for, action taken under Section 104(b) of this Act, and any emergency assistance which may be provided under the Disaster Relief Act of 1974. (CERCLA 101(23))

G. Remedial Action (CERCLA): An action consistent with a permanent remedy that is taken instead of or in addition to a removal action in the

event of a release or threatened release of a hazardous substance to the environment. (40 CFR 300.5) (CERCLA 101(24)) The remedial action must prevent or minimize the release so that it does not migrate to cause substantial danger to the present or future human health or the environment. **Remedial cleanup actions should be taken only for sites on the Federal Agency Hazardous Waste Compliance Docket and where a Remedial Investigation/Feasibility Study has been completed.**

H. **No Further Remedial Actions Planned (NFRAP):** The designation given to a site on the Federal Agency Hazardous Waste Compliance Docket by a USEPA Regional Office once all necessary evaluations have been accomplished. However, State regulatory agencies or BLM guidance may require additional evaluations.

I. **Imminent Threat:** An impending hazard that significantly endangers the public safety or impacts sensitive environments.

J. **Time Critical Response Actions:** Actions required within six months of the discovery of a hazardous substance release, or threat of release, to minimize or eliminate a substantial threat to the public health and safety or sensitive environments.

K. **Non-Time Critical Response Actions:** Actions taken at a site where there is no imminent threat to public safety or sensitive environments. These actions are not required within a six-month period after site discovery but are required to prevent substantial threats to public safety and the environment.

L. **Targets:** A physical or environmental receptor that is within the target distance limit (maximum distance over which targets are evaluated). Distances are set by the hazard ranking system for a particular pathway. Targets may include wells and surface water intakes supplying drinking water, populations, human food chain organisms, sensitive environments, wellhead protection areas, and other resources. (EPA/540-R-92-021)

M. **Pathway:** The environmental medium through which a hazardous substance may threaten targets. Pathways include ground water, surface water, air, and soil exposure. (EPA/540/G-91/013)

N. **Hazard Ranking System (HRS):** Serves as a screening device to evaluate the potential for release of an uncontrolled hazardous substance to cause human health or environmental damage. The HRS provides a measure of relative rather than absolute risk. It is the principal mechanism that the USEPA uses to place sites on the National

Priority List (40 CFR 300 App. A). Two scoring methodologies have been developed based on the HRS and include the PA-score, associated with a remedial preliminary assessment, and the Pre-score, which is associated with a remedial site inspection.

3. INCIDENT/SITE DISCOVERY AND VERIFICATION

A. Discovery: Discovery of an incident/site occurs when there is an identification that a hazardous substance(s) release has occurred, a release is suspected, or the threat of a release exists (40 CFR 300.405). Identification of a potential incident/site involving the possible release of hazardous substances may occur through the following means:

- Inventory, survey, or incidental observation and report by agencies or the public
- Notification from a state or federal permit holder
- Report to the National Response Center (NRC) (CERCLA 103(a))
- Report to the EPA (CERCLA 103(c))
- Response to an inquiry under CERCLA 104(e)
- Citizen notification
- Petition for a Remedial Preliminary Assessment (PA) (CERCLA 105(d))

B. Incident/Site Verification and Documentation: An initial incident/site examination should be performed by qualified BLM Hazardous Materials Management personnel immediately after notification of an incident/site that potentially involves the release of a hazardous substance(s). The purpose of the examination is to verify that the situation involves public lands administered by the BLM or a facility owned or operated by the BLM, and that a release of a hazardous substance(s) has occurred or is suspected. At a minimum, the examination should include an inspection of existing information pertinent to the incident or site, interviews with individuals who have knowledge of the incident or site, and a physical examination of the site or the location of the incident. The examination should include photographs of the incident location or the site, and all photos should be dated and include a description of the scene. When conducting a physical examination of a site, the inspectors must follow all safety precautions, policies, and regulations pertaining to the evaluation of hazardous waste sites, specifically WO IM 93-106 and 29 CFR 1910.120.

All interviews and contacts should be documented, including the name, address, and phone number of the individual(s) interviewed and a written account of the information provided. Information gathered during the initial site examination or subsequent evaluations implicating a PRP should be submitted to the BLM Special Agent in Charge having jurisdiction over the site.

If a release has occurred or is suspected, a determination of whether the situation poses an imminent threat to human health or to sensitive environments must be made and documented in the verification report. If, in the judgment of the examiner, a potential for an imminent threat exists, procedures outlined in District or State Office hazardous materials contingency plans should be implemented **immediately**.

The information gathered during an examination, regardless of whether a release has occurred or not, should be documented and retained in District files. If a release has occurred, an administrative record should be initiated for the site. Information gathered in this examination and all other subsequent information pertaining to selecting and implementing a response action (removal and/or remedial) must be placed in the administrative record.

If the examination verifies that a release of a reportable quantity of a hazardous substance (40 CFR 302.4) has occurred, a threat of a release exists, or a release is suspected, a Removal PA should be conducted for the site (see Section C.1.a.).

C. **Emergency Response Actions:** All emergency removal actions, as defined in BLM Manual 1703, needed to protect the public and sensitive environments from a substantial risk must be implemented **without delay**. This includes all risks resulting from a release or threat of a release of a hazardous substance associated with BLM-administered surface lands or from BLM-owned facilities. A Removal PA or environmental assessment is not required prior to initiating these emergency actions. However, the determination that the action is time critical, along with the information used to make this determination, must be documented in the administrative record for the site as soon as possible after the action is taken.

4. NOTIFICATION (40 CFR 300.125, 300.405, 300.170)

A. **Responsibilities:** All federal agencies are responsible for releases of hazardous substances from facilities (sites) under their jurisdiction. When the incident/site examination indicates that a release has occurred or is suspected, the National Response Center (NRC) and the Local Emergency Planning Committee (LEPC) must be notified of all

releases of a hazardous substance to the environment in a quantity equal to or exceeding the reportable quantity, tabulated under 40 CFR 302.4, in a 24-hour period (40 CFR 302.6). If the actual quantity of a release is unknown, the NRC should still be notified. This notification should be made **promptly after completion of the initial incident/ site examination or if sources indicate that an imminent threat exists**. Specific notification procedures should be outlined in your State or District Office Hazardous Materials Contingency Plan.

B. NRC Site Information Requirements: Reporting shall not be delayed due to lack of information. Any notification to NRC should include the following information pertaining to a release (if known):

- Site location
- Substances released
- Estimated quantity of hazardous substance released
- Source of the release
- Date and time the release occurred

5. SITE EVALUATIONS

Site evaluations described in the NCP are divided into two groups. The initial group of site evaluations are called removal evaluations and include a preliminary assessment (PA) and a site inspection (SI). The second group of site evaluations are called remedial evaluations and are analogous to removal evaluations in that they include a PA and SI. However, the purpose of the two groups differs.

The site evaluation process described in this chapter is not a rigid process. It is intended to be flexible so that only those evaluations needed to determine the significance of a site, in terms of relative risk to targets, are conducted. Although site evaluations should be conducted in sequence — removal PA, removal SI, remedial PA and remedial SI — specific evaluations may be bypassed if justified in a previous evaluation. For example, if a removal PA indicates the need for a remedial evaluation of a site because of documented contamination of a drinking water supply, then bypassing a removal SI and initiating a remedial PA may be appropriate. Site evaluations are to be conducted in the most effective and efficient manner possible.

A. Removal Site Evaluations (40 CFR 300.410): The NCP removal site evaluations have two phases: a Removal Preliminary Assessment and a

Removal Site Inspection. The primary objectives of a removal evaluation are to (1) determine if a problem exists, (2) identify short-term alternatives (removal actions) to correct the situation, and (3) determine whether a remedial evaluation of the site is required.

1. Removal Preliminary Assessment (PA)

 a. Purpose: The Removal PA is the first evaluation of a site in the NCP process. It should be conducted on every site where a site/incident examination indicates that a release has occurred, a release is suspected, or the threat of a release exists. A Removal PA is begun after all emergency actions have been taken to eliminate any imminent threat to the public or to sensitive environments. The primary purposes of the Removal PA are to:

 - Document whether a release of a hazardous substance has occurred or if the threat of a release exists
 - Identify potential constituents of concern
 - Identify potential targets that may be impacted by the site and the pathways by which they may be impacted
 - Identify the need for removal actions
 - Recommend further evaluations if existing information is insufficient to identify appropriate removal actions or if there is a need for remedial actions
 - Document that a PRP is taking appropriate actions (for sites where a PRP is conducting the site evaluation and will implement selected remedies)

 b. Content: The Removal PA should include, but is not limited to, the following:

 (1) The location of the site, including a legal description and the latitude and longitude. This description should identify any property not under the jurisdiction of BLM that may be impacted by the release.

 (2) A description of the source and nature of the release or threat of a release. This description should include the type of facility or site (e.g., landfill, mill site, illegal dump, etc.), the type of release (e.g., spill, abandoned containers,

leaching from pit, etc.), and the estimated aerial extent of the contaminated area.

(3) Identification of the substance(s) of concern, the nature of the substance(s) (e.g., toxic, flammable corrosive, etc.) the quantity (if known) of each substance released, and the form of the hazardous substance (i.e., liquid, solid, or gas).

(4) Identification of existing or potential targets threatened by the release and the pathway by which they may be impacted (i.e., air, surface water, ground water, or soil exposure). In addition, an estimation of the nature of the threat (time critical or non-time critical) resulting from the release should be provided.

(5) If removal actions are deemed appropriate, a description of the removal actions and documentation of all the information used to determine the need for a removal action.

(6) Identification of additional information required to determine appropriate removal actions and recommendation for a Removal Site Inspection (SI). (Removal SIs are addressed in Section 5.A.2.)

(7) Detailed rationale as to why no further actions are required or why there is a need for remedial evaluation of the site, depending on the conclusion reached.

(8) If a viable PRP exists, documentation of the actions a PRP will take to clean up a release or eliminate the threat of a release. Once cleanup actions have been implemented, the Removal PA should be supplemented to document that all selected removal and remedial actions have been completed. The documentation should include all approved evaluations and remedial action plans prepared by the PRP for the site.

c. Conducting a Removal PA: The Removal PA is based on readily available data such as site management practices, information from generators, aerial photos, personal interviews, etc. Sampling and analysis may be associated with a Removal PA but should be limited to only those non-intrusive samples necessary to meet the purpose of a removal PA. If existing information is insufficient and extensive sampling is required to select a removal action to eliminate existing and future threats from a release, then a Removal SI should be initiated; if the informa-

tion indicates that remedial actions are required, then a remedial evaluation should be initiated.

2. Removal Site Inspection (SI)

 a. Purpose: A Removal SI is initiated when the information gathered during the Removal PA is insufficient to select an appropriate removal action and the need for remedial action has not been indicated. The purpose of a Removal SI is to augment the data collected during the Removal PA through an on-site investigation. The objective of this inspection is to collect samples and other field data necessary to:

 - Determine whether remedial actions are required and document the information used to make the determination
 - Describe the removal actions and document all of the information used to determine the need for them if they are deemed appropriate
 - Document whether no further remedial or removal actions are necessary for the site

 b. Content: A Removal SI should incorporate and build upon the Removal PA completed for the site. The Removal SI should include an expanded sampling program to complete the evaluation design. This sampling program should be based on the information gathered in the Removal PA. In addition to the elements required in a removal PA, a removal SI must include, but not be limited to the following:

 - Quality assurance plan
 - Site safety plan
 - Field sampling plan

3. Termination of a Removal Site Evaluation

Determinations resulting in the termination of a removal site evaluation (either a Removal PA or Removal SI) should be based on the following factors:

- A release did not occur.
- The release does not involve a hazardous substance.

- The release involves a naturally occurring substance in an unaltered state. (Note that actions may be required by other authorities and regulations.)

- The quantity or concentration released does not warrant a response, or the quantity released is below a reportable quantity (tabulated under 40 CFR 302.4).

- A removal action(s) is sufficient to eliminate the threat to human health or the environment.

- A PRP is taking or has taken appropriate action.

- The removal site evaluation indicates the need for remedial actions.

4. Determining the Appropriateness of Removal Actions

The need for a removal action is based on eight criteria established in the NCP (40 CFR 300.415). Information gathered during removal evaluations of a site should be checked against these eight criteria to determine the need for a removal action. The eight criteria are:

- Actual or potential exposure to nearby populations, animals, or the food chain

- Actual or potential contamination of drinking water supplies or sensitive ecosystems

- Hazardous substances in bulk containers that may pose a threat of release

- High levels of hazardous substances in soils that may migrate

- Weather conditions (e.g., flooding) that may promote migration of hazardous substances

- Threat of fire or explosion

- Availability of other federal or state response mechanisms

- Other situations that may pose threats to public health and the environment

If the need for a removal action is justified based on the above criteria and the action is determined to be of a non-time critical

nature (action not required within a 6-month period after site discovery), then an Engineering Evaluation/Cost Analysis (EE/CA) should be initiated. The justification for a removal action must be documented in a removal site evaluation.

5. Engineering Evaluation/Cost Analysis (EE/CA)

 If a non-time critical removal action is justified in any site evaluation (Remedial or Removal), the NCP (40 CFR 300.415) requires the preparation of an EE/CA. The EE/CA establishes the removal action objectives, analyzes cost-effective removal alternatives, and recommends a preferred removal alternative that best meets the removal objectives. The EE/CA must include, or reference, all information used to select the removal alternatives. If additional samples are to be collected for an EE/CA, sampling and analysis plans must be prepared and reviewed by the USEPA.

 The USEPA has issued guidance for performing EE/CAs (See: EPA/540-R-930-057). The format of the EE/CA document is as follows:

 - Introduction
 - Site Characterization
 - Identification of Removal Action Objectives
 - Identification and Analysis of Removal Action Alternatives
 - Comparative Analysis of Removal Action Alternatives
 - Recommended Removal Action Alternative

 After completion of the EE/CA and incorporation of appropriate public comments, an EE/CA Record of Decision (ROD) must be prepared. This ROD selects the specific action(s) for the site. The EE/CA ROD should include the following:

 - Description of the Removal Actions Selected
 - Estimated Cost of the Action(s)
 - Schedule for the Action(s)
 - Discussion of the Removal Action Objectives

 The EE/CA ROD must be signed by the BLM manager having jurisdiction over the site.

6. Community Relations

Section 300.415(m) of the NCP has several community relations and administrative record requirements for removal actions (see Chapter 5 for more details):

a. Designate a community relations spokesperson. This person will be an individual designated by the manager having jurisdiction over the site.

b. Conduct community interviews. Before completing the EE/CA, BLM should conduct community interviews to gather background information for the Community Relations Plan (CRP). The purpose of these interviews is to solicit information about community concerns, information needs, and how and when citizens would like to be involved in the removal action.

c. Prepare a CRP. The CRP is a site-specific document that describes the community relations techniques and approaches deemed appropriate and relevant to the site.

d. Establish an information repository. The information repository must be established no later than the completion of the EE/CA. The repository is a project file or collection of materials relating to the site. The administrative record file is part of the repository.

e. Provide public notice of the availability of the EE/CA. A public notice describing the EE/CA and announcing its availability for review and comment must be published in a major newspaper.

f. Establish the administrative record file. This file must be established no later than the completion of the EE/CA, but should be created after completion of the site verification report. The field office is responsible for compiling and maintaining the administrative record in accordance with the NCP. The administrative record file must be available for public inspection and copying at a central location near the site.

g. Publish a notice of availability of the administrative record file. A public notice must be published when the EE/CA is placed in the administrative record file, along with notice of the 30-day comment period.

h. Hold a public comment period. For non-time critical actions, the NCP requires a 30-day public comment period on the EE/

CA and supporting documentation after the EE/CA is completed. An optional 15-day extension is available.

i. Develop a written response to significant comments. BLM is required to respond in writing to significant comments. All responses must be included in the administrative record file.

B. The Federal Agency Hazardous Waste Compliance Docket (the Docket): The Docket is a USEPA list of federal facilities that require assessment to determine if they pose a threat to public health or the environment. This determination is a measure of the relative risk of all Docket sites expressed numerically by the hazard ranking system (HRS) model. The Docket was created by Section 120(c) of CERCLA and is updated approximately twice each year. All Docket updates are published in the Federal Register.

The USEPA gathers information from five reporting mechanisms to determine if a site should be placed on the Docket. These mechanisms include the Comprehensive Environmental Response, and Liability Information System (CERCLIS); Emergency Response Notification System (ERNS); Hazardous Waste Data Management System (HWDMS, RCRA 3005 and 3010); biennial reports of hazardous waste sites owned or operated by a federal agency (RCRA 3016 Reports); and information gathered though investigation and evaluation of a site by a federal agency (CERCLA 103).

After completing the removal evaluations for a site/incident and, if appropriate, an EE/CA, the documents should be submitted to the USEPA regional office having jurisdiction over the site. Based on the information provided in the reports or the other reporting mechanisms, the USEPA may place the site on the Docket. Once a site has been placed on the Docket, the federal agency responsible for the site must complete a remedial PA and, if appropriate, a remedial SI within 18 months of the date that the site was placed on the Docket.

C. Remedial Site Evaluations (40 CFR 300.420): The NCP remedial site evaluations have three phases: a Remedial Preliminary Assessment, a Remedial Site Inspection, and a Remedial Investigation. The primary objective of the remedial stage of the NCP is to determine the relative significance of the site in terms of risk to targets and to select permanent solutions for significant sites that are both effective and cost efficient. Remedial site evaluations generally involve more complex situations that require long-term treatments, compared to those resolved through the removal process. **At any time a removal action is identified and justified (see Section 5.A.4 of this chapter) in a remedial site evaluation, the action should be pursued in compli-**

ance with the NCP requirements for removal actions (40 CFR 300.415, Sections 3.C and 5.A.4 of this chapter, and Chapter 3 of this document).

1. Remedial Preliminary Assessment (40 CFR 300.420 (b))

 a. Purpose: The Remedial Preliminary Assessment (PA) is a limited-scope investigation performed on all sites listed on the Docket. The Remedial PA is designed to determine which sites require further investigation. The Remedial PA relies on a review of existing information pertaining to the site, including pathways, targets, sources, and waste characteristics; it includes on-site and off-site reconnaissance (including sampling if appropriate). Guidance for conducting a Remedial PA is provided in the EPA publication, Guidance for Performing Preliminary Assessments Under CERCLA, Publication Number EPA/540/G-91/013. Objectives of a Remedial PA include:

 - Identifying those sites that pose little or no threat to human health or the environment

 - Identifying any emergency or time-critical response actions for situations posing an imminent threat to human health or the environment

 - Providing an information base for developing strategies to evaluate those sites requiring a site inspection

 b. Content: The Remedial PA consists of two separate documents briefly described below. Both documents should be autonomous and only the narrative report should be submitted to the USEPA. The two documents are described below:

 (1) Site Narrative: The fundamental purpose of the site narrative is to describe the site both physically and in terms of its operational history. Conclusions expressed in the narrative focus on releases of hazardous substances (potential and observed) from the site and the possible current and future impacts to human health or the environment. Specifically, the narrative must include the following sections:

 - Introduction

 - Site description, operational history, and waste characteristics

- Pathways and environmental hazards
- Summary and conclusions
- Photo documentation log
- References
- Remedial PA data and site characteristics form (OMB-2050-0095)

(2) Remedial PA Scoresheet Package: The Remedial PA Scoresheet Package functions as a self-contained workbook that provides all information necessary to calculate a Remedial PA score. The package consists of the following scoresheets:

- General information
- Source evaluation
- Waste characteristics
- Ground water pathway
- Surface water pathway
- Soil exposure pathway
- Air pathway
- Site score calculations

2. Remedial Site Inspection

The objective of the Remedial Site Inspection (SI) is to gather information to support a site decision regarding the need for further evaluation or remedial actions. The Remedial SI is not an extent-of-contamination study or a full risk-assessment study. The appropriate level of information gathering and analysis to meet this objective can be reached only through strategic planning to determine what data is essential to the decision. The Remedial SI is a dynamic, flexible process that should be tailored to the specific circumstances of individual sites. As hypotheses are tested and either rejected or confirmed, adjustments to the investigation are required. Guidance for conducting a Remedial SI is provided in

Guidance for Performing Site Inspections Under CERCLA-Interim Version, EPA publication number EPA 540-R-92-021.

A primary purpose of the Remedial SI is to test the Remedial PA hypothesis that the site poses a significant threat to human health or the environment and to collect information to score the site using the Hazard Ranking System (HRS) if the Remedial PA hypothesis are shown to be accurate. Guidance for producing an HRS score is provided in 40 CFR 300, Appendix A. The HRS is the principal mechanism used by the EPA to place sites on the National Priority List (NPL). The HRS score provides a measure of relative rather than absolute risk associated with the release of an uncontrolled hazardous substance.

Three types of SIs are described in the EPA guidance. All three types are briefly described below:

a. Focused Site Investigation (FSI): The goal of the FSI is to obtain analytical data to test Remedial PA hypotheses that result in a site score of greater than or equal to 28.5. Since the Remedial PA score may be based on professional judgement rather than analytical data, the FSI emphasizes sampling to obtain critical analytical data not available during the Remedial PA. The FSI should reflect the importance the HRS attaches to the migration of hazardous substances from sources at the site and their presence at targets. The data collected in the FSI is used to refine the site score developed at the Remedial PA. This can be accomplished through the Prescore computer program available from USEPA Regional Offices.

 If the FSI confirms the Remedial PA score, additional remedial evaluation of the site may be required. At a minimum, information necessary to complete an HRS score for the site will have to be collected.

 If the FSI indicates that the site does not pose a significant threat to human health or the environment (prescore is less than 28.5) and the USEPA concurs with this conclusion, then the site should receive a NFRAP status from the USEPA. Once a site has received this status, it is usually referred to the state by the USEPA.

 An FSI should consist of two separate documents:

 -FSI narrative report

 -Prescore package (for internal use only)

b. Single Site Investigation (SSI): A Single Site Investigation should be considered only if all data necessary to complete an accurate HRS score exists. This situation will usually exist for sites having significant amounts of analytical data previously collected by municipal, county, state, or other federal authorities. The SSI should emphasize the evaluation of data quality and relevance to the site. The collection of additional analytical data should be limited to the accomplishment of the tasks outlined for the FSI. Documents to be prepared by BLM are the same as those for the FSI.

c. Expanded Site Investigation (ESI): The objective of the ESI is to collect all data necessary to prepare an HRS scoring package. In addition, the ESI should accomplish the following:

- Investigate Remedial PA assumptions not adequately tested during the FSI.

- Verify sources of contamination and extent of migration.

- Establish representative background levels.

- Collect any other missing HRS data for pathways of concern.

The ESI will usually require extensive sampling (more than 25 samples). Sampling during the ESI is designed to support and document observed releases, observed contamination, and levels of contamination as required by the HRS. Thus, an ESI will require a complete Quality Assurance/Quality Control (QA/QC) program for sampling and analysis.

The ESI will consist of the two separate documents:

- ESI narrative report

- Prescore package (for internal use only)

The EPA has 12 months to evaluate SI documents and complete an HRS score. If the EPA HRS score remains equal to or greater than 28.5, EPA may nominate the site for the National Priority List. If the score is less than 28.5, the EPA may assign a NFRAP status and refer the site to the state.

3. HRS Scoring

A PA or pre-score package should be completed by a BLM HMM coordinator or a contractor under BLM oversight for all remedial

PAs or SIs completed for BLM Docket sites. The purpose for BLM completing a PA or pre-score package for a site is to gain an understanding of the pathways and targets of concern and the relative significance of these concerns. This knowledge will be essential for discussions with the USEPA and other regulatory agencies regarding the significance of the site. These packages are also the primary tool for developing strategies for future required evaluations of the site.

Most EPA regions will not accept PA or pre-score packages from other agencies, but will prepare their own HRS score for the site. BLM PA and pre-score packages are for internal use only.

4. Remedial Investigation/Feasibility Study/Proposed Plan (RI/FS/PP)

An RI/FS/PP is conducted for sites having HRS scores greater than or equal to 28.5 that have been placed on the National Priority List by the USEPA. An RI/FS/PP may also be conducted if a court or administrative order requires this level of investigation. The RI must be commenced within 6 months of the NPL listing in accordance with Section 120 of CERCLA.

a. Remedial Investigation: The RI consists of two phases. The first phase of an RI is a project scoping phase, which defines the type and sequence of site activities. Completion of this phase should result in four plans:

- Work Plan - documents the decisions made and describes the steps required to conduct the RI and FS

- Sampling and Analysis Plan (SAP) - specifies how sample collection activities are to be conducted in accordance with technically accepted protocols and includes a quality assurance project plan (QAPP)

- Health and Safety Plan (HASP) - identifies potentially hazardous operations and prescribes protective measures for on-site workers, surrounding communities, and the environment

- Community Relations Plan - documents the community concerns at a site, identifies the community relations objectives, and specifies how the objectives will be met

The second phase of the RI is the site characterization phase. This phase builds on the scoping phase and includes implementation of the project plans. Typical activities include con-

ducting field investigations to define the site's physical characteristics, analyzing samples to support remedy selection and cost recovery or other legal actions, defining the nature and extent of the threat, conducting a baseline risk assessment, evaluating additional data needs, and identifying applicable or relevant and appropriate requirements (ARARs).

Identification of ARARs, which are substantive cleanup standards established by other environmental laws, is fundamental to cleaning up NPL sites. ARARs are determined on a site-specific basis and may include any standard, requirement, criterion, or limitation under Federal or State environmental law.

b. Feasibility Study: The FS consists of two phases. The first phase of the FS identifies remedial action alternatives for the site. These alternatives, including a no-action alternative , must undergo a detailed analysis based on nine criteria. These criteria include:

- Overall protection of human health and the environment
- Compliance with ARARs
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume through treatment
- Short-term effectiveness
- Implementability
- Cost
- State acceptance
- Community acceptance

The second phase of an FS is a treatability study. A treatability study is conducted if a preferred remedial action alternative cannot be adequately evaluated based on the available information. For example, if a new technology is proposed that does not have a proven track record, it must be tested to ensure it is appropriate for the contamination at a particular site.

c. Proposed Plan: The PP identifies the alternative that provides the best balance of trade-offs in light of the nine FS evaluation

criteria. The PP should describe the remedial alternatives analyzed, identify the preferred alternative, summarize the information relied upon to select the remedy, and solicit public comment. To solicit public comment, a notice and brief analysis of the PP are published in a major local newspaper of general circulation. The PP, along with all other information, is also made available to the public in a repository located near the site, such as an Area or District office. The public is allowed 30 days (which may be extended to 60 days upon a timely request) to comment on the PP.

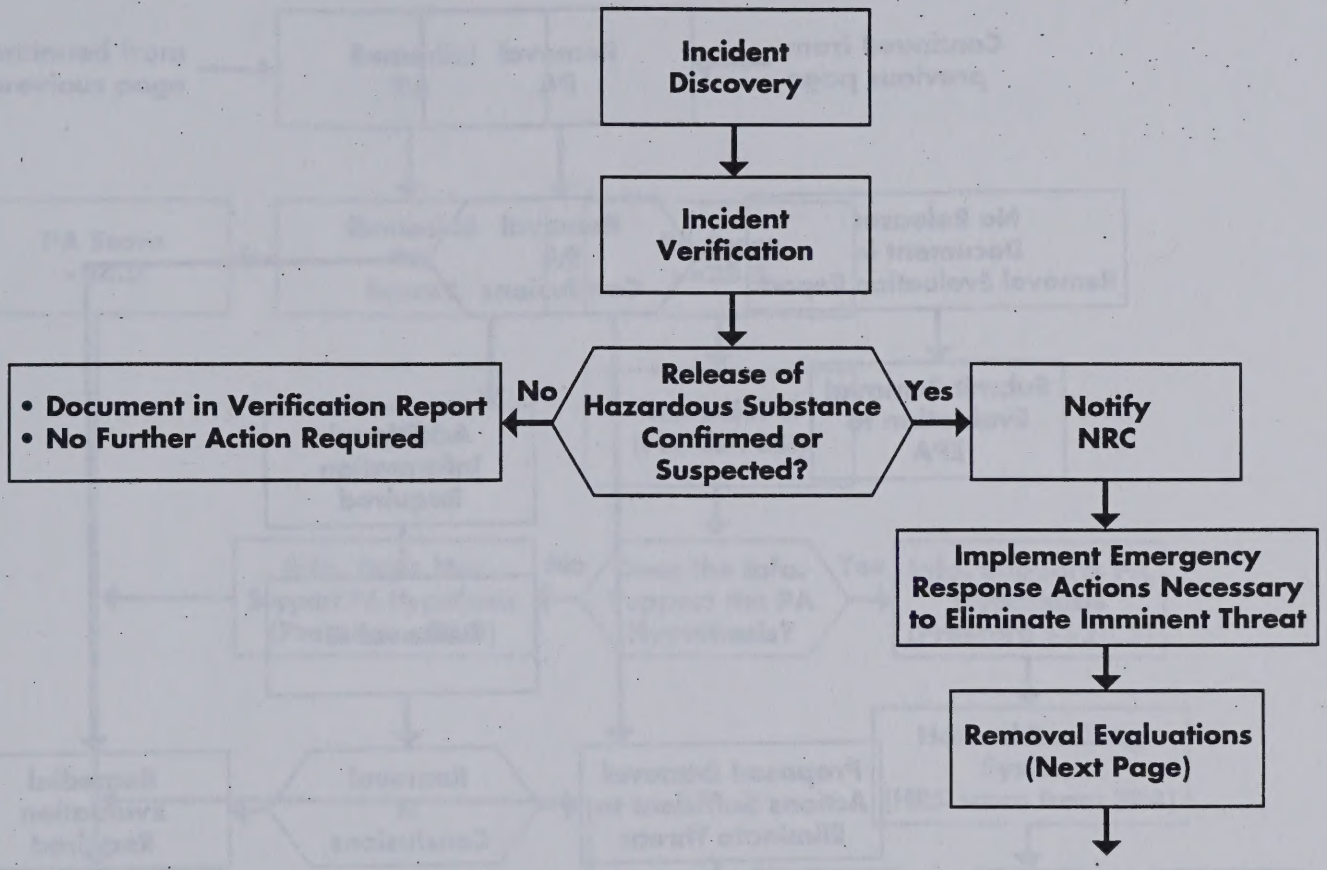
Following receipt of public comments on the PP, a Responsiveness Summary containing all questions and comments raised by the public, including the agency's responses to the comments and questions, must be completed. Based on the FS, PP, and the Responsiveness Summary, a final remedy is selected and a Record of Decision is prepared.

Detailed guidance for conducting investigations of NPL-listed sites is provided in Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, EPA publication number EPA 540 G-89 004.

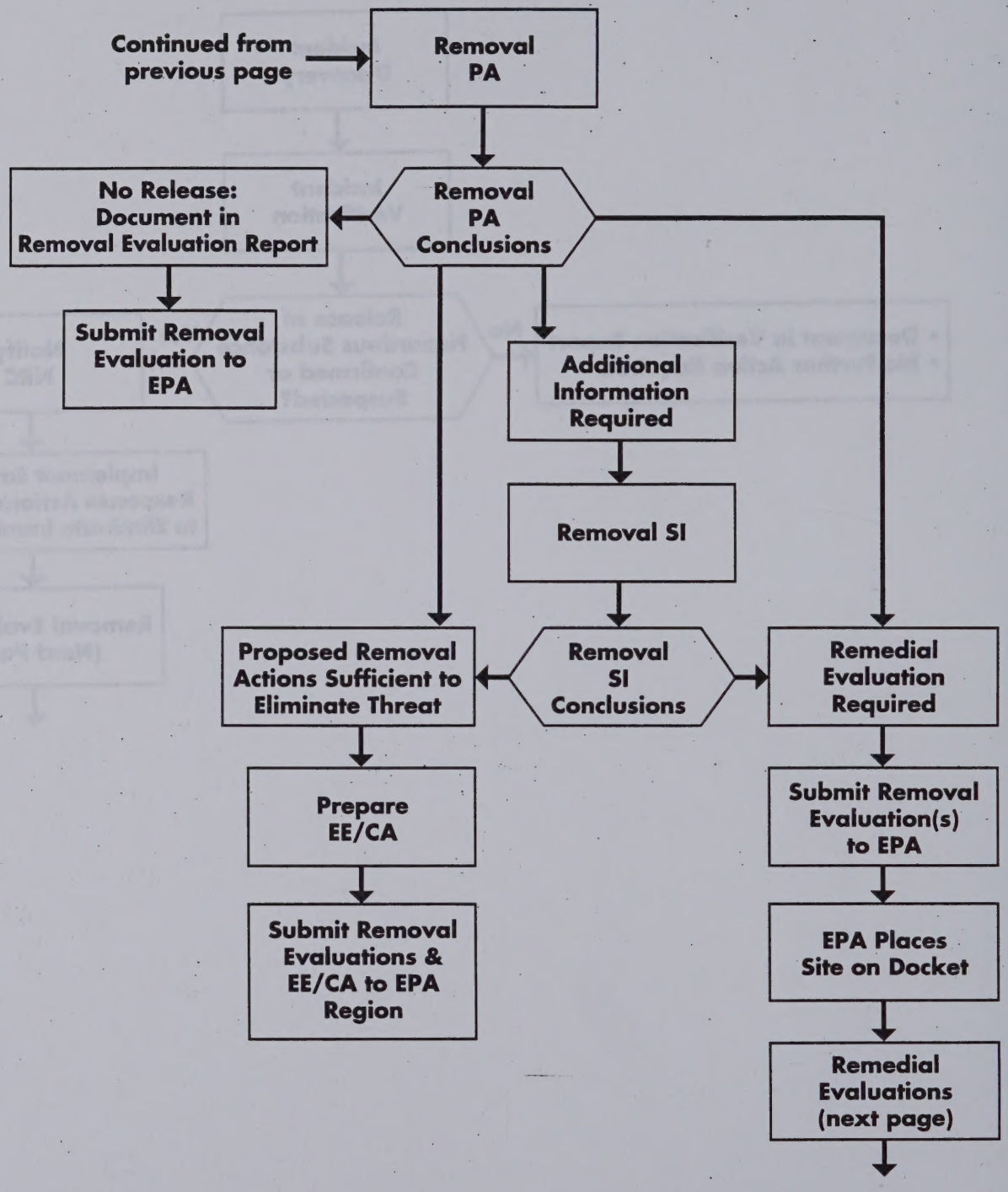
APPENDIX A

Evaluation Flow Chart

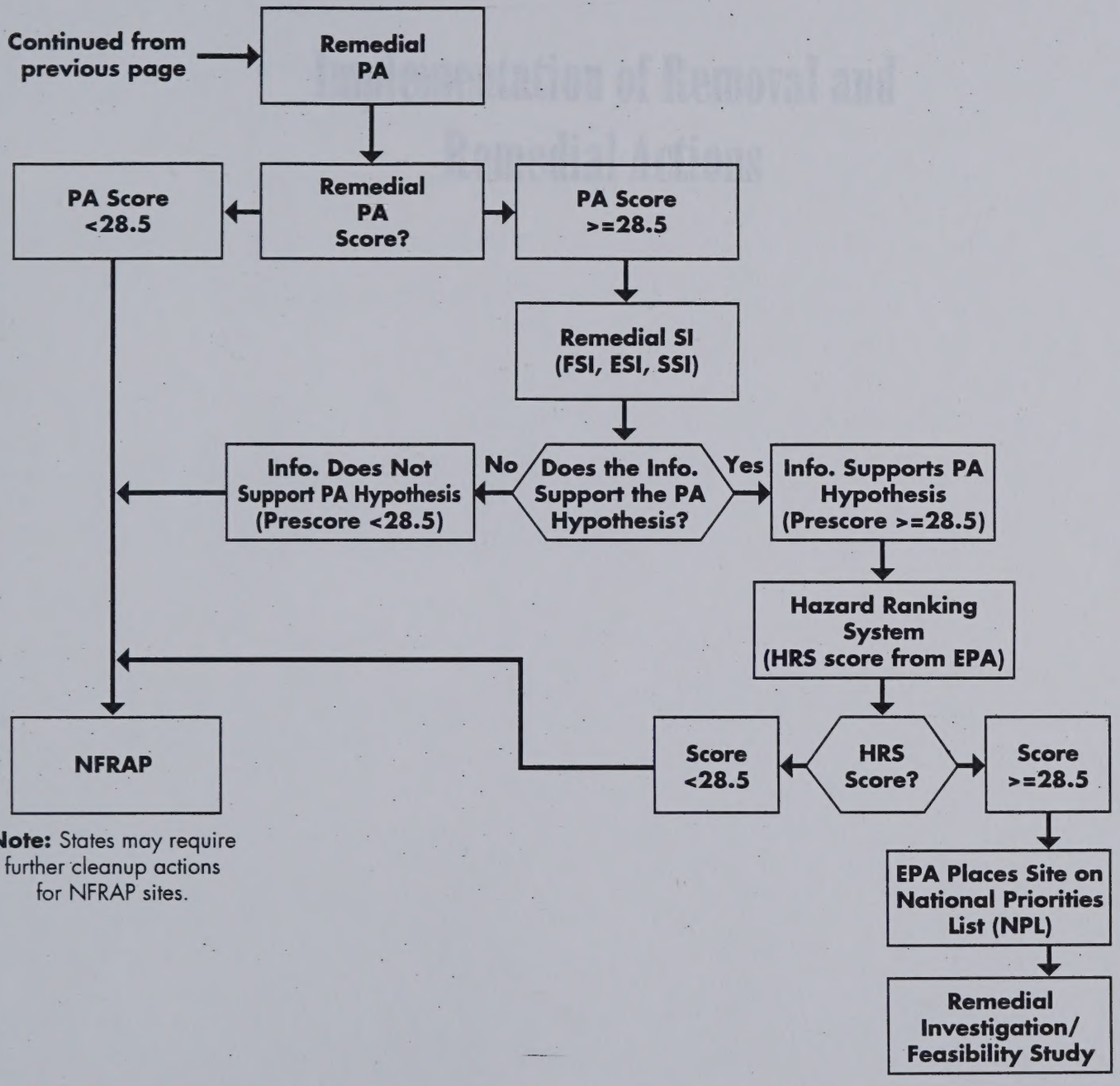
Incident Discovery and Verification



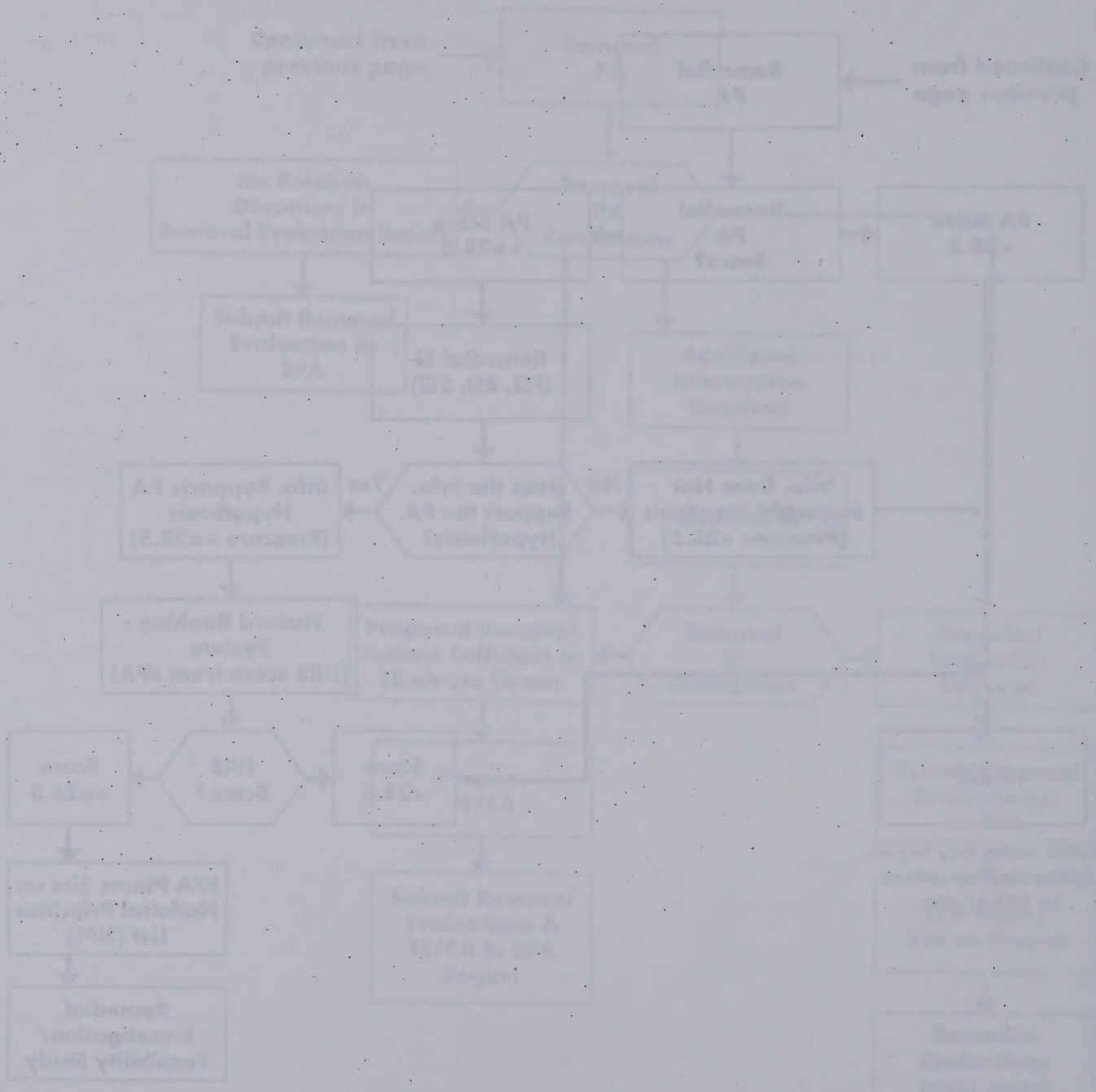
Removal Evaluations



Remedial Evaluations



Note: States may require further cleanup actions for NFRAP sites.



CHAPTER III

Implementation of Removal and Remedial Actions

CHAPTER III Table of Contents

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1. INTRODUCTION

CERCLA response actions may take the form of removal actions and remedial actions (see definitions, Chapter II). Removal actions may further be divided into emergency (time critical) and planned (non-time critical) removals (see Chapter II for definitions). Preference is given to removal actions because these result in early reductions of risk and, in the long run, tend to cost much less than remedial actions.

All response actions must be consistent with the NCP (Chapter II) and the BLM contingency plan.

This chapter discusses contracting considerations (Section 2), PRP-conducted removal/remedial actions (Section 3), the implementation of emergency or time-critical removal actions (Section 4), design (Section 5), and non-time critical removal and remedial actions (Section 6).

2. CONTRACTING CONSIDERATIONS

A. **Existing Contracts:** Prior to contracting design or construction projects, field offices must exhaust responsible party funding or contributed services. BLM maintains state emergency response contractors who can perform construction work, but these contractors may be limited by their experience, and by contract to $200,000 per site. BLM's National Applied Resource Science Center (NARSC) maintains national contracts that can provide design and specifications. In addition, the state emergency response contractor can perform limited design work. Some BLM offices may have engineering capability to perform limited design and specification work in-house, for example, design of a landfill cap.

B. **Procuring a New Contractor:** State offices should request remedial design and remedial action (construction) funds through the annual workplan process. National Priority List sites may be eligible for DOI Central Hazmat Funding.

A significant project design should be performed by a site-specific contractor. The funding, statement of work, selection criteria, recommended contract type, and government cost estimate are required for procurement to advertise for bids. A Technical Proposal Evaluation Committee (TPEC) is convened and the contractor selected. The minimum time period for this procedure is 3 months. Performance and payment bonds may be required for any construction contract exceeding $25,000.

C. **Cost Estimating:** BLM has a Cost Estimating Handbook, prepared by Dynamac Corporation, and DOI RACER software that may be used to estimate costs. Contact Karl Ford or Brent Lewis of NARSC for more information

D. **Monitoring and Oversight:** BLM and its design contractor should monitor construction activities to ensure conformance with the contract and design.

- Materials Inspection and Testing

 BLM and its design contractor should inspect all materials and equipment for conformance with the contract and design.

- Stop Work

 BLM should issue a stop work order if any contract violations, significant deviations, or public health hazards are observed.

E. **Change Orders:** During construction, unforeseen site conditions, changes in estimated quantities, project delays, and other problems are likely to lead to change orders. All change orders are to be approved by the contracting officer. A contingency percentage is normally included in the cost estimates for change orders.

3. PRP-CONDUCTED REMOVAL/REMEDIAL ACTIONS

PRPs may voluntarily conduct removal/remedial actions, or they may be forced to conduct these actions by legal action. In each case, BLM must provide oversight in all aspects of site evaluation, remedy selection, remedy design, and construction to ensure the work performed meets the standards of the regulatory agency or internal BLM standards. BLM should enter into an enforcement agreement with the PRPs and other regulatory agencies, if applicable, specifying the responsibilities of each party, work standards, deadlines, and penalties, if applicable. BLM should retain the authority to reject work and stop work if it fails to meet agreed-upon standards. Contact the Solicitor's Office and Eric Johnson of NARSC for assistance in establishing agreements. All of the work elements described in the following sections apply to PRP-conducted actions.

4. EMERGENCY/TIME-CRITICAL ACTIONS

BLM's state contractors are authorized to perform time-critical response actions. Response actions under these contracts cannot exceed $200,000 (less in some states) for any single incident or site. Refer to the contract

documents for further information on initiating a delivery order. The following tasks can be completed by BLM or its contractors.

A. Work and Management Plans: Work and Management Plans should be completed that establish the methods and procedures for the work to be performed. These plans should provide the standards by which all actions will be conducted.

- Sampling and Analysis Quality Assurance Plan. Elements of this plan should address sampling field procedures; sample chain of custody: sample transport and preservation procedures; equipment calibration and maintenance procedures and frequency; analytical procedures; data reduction, validation, and reporting; internal quality control checks; performance and system audits; preventive maintenance procedures; data assessment for precision, accuracy, and completeness; corrective action procedures; and QA reporting procedures.

- Transportation and Disposal Plan. This plan should address the following aspects of removal, transport, and disposal of hazardous materials and hazardous waste:

 - The handling, packaging, and labeling of hazardous material and hazardous waste;

 - The loading, transporting, intermediate storing, and disposing of hazardous material and hazardous waste.

- Records Management Plan. This plan should describe the record-keeping system to be utilized and include a description of:

 - Manifesting procedures;

 - Tracking the primary or secondary material through removal from the site to final disposal;

 - Acquiring certificates of acceptance, disposal, destruction, and reclamation;

- Other documentation and communication procedures that should be used to track and record BLM's materials that are removed from BLM sites, including surcharge schedules for dated material, QA/QC data, and chain of custody for samples.

- Program Management Plan. This plan should address the program management procedures to ensure that the requirements of the SOW are properly implemented and should include, but not be limited to, the following:

- Proof of up-to-date contractor liability insurance;
- Proof that the liability insurance will remain in effect for the duration of the contract;
- Certifications held by laboratories.

- Decontamination Plan. This plan should detail the procedures and methodologies used to decontaminate equipment and personnel used in field activities.

- Health and Safety Plan. This plan should address the programmatic procedures and methodologies used to protect the public health and welfare, and the personnel (including BLM personnel and subcontractors) associated with or affected by any response actions.

B. Time Critical Removal Actions:

- Emergency Stabilization/Containment

 The purpose of emergency site stabilization and containment of hazardous materials is to eliminate migration pathways that pose an imminent threat to the public or the environment from a hazardous substance release. This task may include, but not be limited to, physical containment, fencing, signing, or barricading.

- Laboratory Services

 Initial hazard characterization of the materials should be performed to categorize waste characteristics for the purpose of sampling protocol, stabilization and containment procedures, and determination of an appropriate level of protection. Sampling and analytical services are conducted to evaluate the site, identify hazardous substances, and classify substances for transport, treatment, or disposal. If environmental sampling (e.g., soil, groundwater, surface water, or air) is required, a site-specific sampling plan should be developed. If the sampling is being undertaken under an emergency response, both the site-specific sampling plan and BLM concurrence can be done orally.

 The programmatic sampling and analysis quality assurance plan should be followed when developing site-specific sampling plans. Site-specific sampling plans should depict sample locations and constituents to be analyzed. Collection and analysis of the samples should be performed by trained and experienced personnel. Proven instruments and techniques should be used to collect and analyze

samples. Sampling design techniques, preservation, and handling should be in accordance with the methods and procedures addressed in the sampling plan.

For other than emergency response actions, the laboratory used should be a participant in the EPA Contract Laboratory Program (CLP). While BLM samples are not actually analyzed through the CLP, the CLP or EPA's SW-846 protocol (Test Methods for the Evaluation of Solid Waste) should be used when processing and analyzing samples. If required by State environmental regulatory agencies, the laboratory should be certified by the State.

- Hazardous Materials Classification/Profiles

Prior to transporting any waste material, the following should be determined:

1. By onsite field testing or laboratory analysis, if the material is a hazardous waste/substance;

2. Whether the material must be taken to an EPA/State RCRA-permitted treatment or disposal facility;

3. Whether material is economically recyclable; or

4. Whether the material can be treated onsite. If a release of a hazardous substance to the environment is suspected, then environmental samples should be taken in accordance with the following subparagraphs. The location and number of all environmental samples should be approved by BLM prior to their collection.

In certain instances, as directed by BLM, rapid sample characterization (i.e., hazard categorization or "hazcat") is critical to prompt site evaluation and response. The following procedure will normally efficiently determine which, if any, wastes are hazardous:

1. Hazcat the wastes and group them as a wastestream by hazcat category (ignitable, reactive, corrosive, or probably toxic).

2. Composite a sample from the grouped wastestream and analyze for Toxicity Characterization Leaching Procedure.

3. Send a sample split from #2 above to a treatment, storage, or disposal (TSD) facility for profiling.

Sampling should be adequate to support acceptance at a TSD facility and should conform to EPA standard testing methods as well as State standard methods for the parameters/chemicals in question. Sampling should provide the Bureau with a definitive answer to the question of whether the material is a hazardous waste, as defined by RCRA, CERCLA, and/or TSCA.

If it is determined a substance is hazardous, it is necessary to contact the intended disposal facility to determine the exact analyses they require to complete the profile form and have the material accepted by the facility.

Recyclable materials should be evaluated to determine where the materials may be taken for recycling and the cost involved.

Materials should be identified that can be treated onsite and those treatments allowed by regulation. BLM may elect, within applicable limitations of the law, to perform either onsite or offsite treatment if appropriate.

Materials determined "Hazardous" by laboratory analysis are normally disposed of as described in the following sections. RCRA empty drums and other containers should be disposed of or recycled. Hazardous substances at a CERCLA site are not hazardous wastes until they are removed. Increasingly, to save money, EPA, BLM, and other agencies are treating wastes onsite under the provisions of 40 CFR 300.415 (removal actions).

- Removals

Typical hazardous material removals involve packaging and transporting hazardous materials from the site to an approved facility or onsite treatment. Occasionally, the removal may require berming, diking, treatment, capping, and fencing activities. For hazardous materials removed from BLM sites:

- *Handling:* Handling of hazardous materials should conform to the method and procedures specified in the programmatic work plans and must comply with all State and Federal regulations regarding the handling of a specific constituent.

- *Packaging:* To contain costs, every attempt must be made to minimize the amount of hazardous waste for disposal. This requires careful inventory, marking, and testing. Hazardous waste must be identified and segregated from nonhazardous

waste. Hazardous substance containers, salvage drums, and other needed packaging materials and supplies should be obtained.

All containers into which hazardous waste or hazardous materials are transferred for storage or transportation should be manufactured and assembled in accordance with all applicable DOT and EPA specifications. Preparation of non-leaking hazardous wastes for transportation and shipment should be in accordance with the appropriate Federal and State regulations. Leaking equipment or containers should contain sufficient absorbent material to prevent shifting of the contents and to absorb the entire volume of the liquid in the hazardous substance equipment.

Incompatible hazardous substances may not be mixed. Should there be more than one type of land disposal-restricted material in a container and they are required by regulation to undergo different types of shipping or disposal, then each should be separately tracked by repackaging the material and renumbering the containers.

- *Marking, Labeling, Placarding:* Marking, labeling, and placarding of all containers and vehicles should be in accordance with all applicable DOT, EPA, and State requirements for the type of material they contain. Labels and markings should be properly completed and remain intact and legible until the material is finally disposed of in a permitted facility. Each container should be identified, labeled, and marked with a unique identification number prior to loading it for transportation from the BLM site. Every time the contents of a container are removed for any purpose, the contents should be tracked and documented and the new container should be labeled or marked with unique identification numbers that are traceable to the original container.

- *Transportation:* Vehicles used to transport hazardous materials should comply with applicable requirements of DOT, EPA, and State agencies. They should be operated in accordance with all laws and regulations. All drivers should be trained, qualified, experienced, and licensed to transport hazardous materials in compliance with Federal and State laws and should comply with routing requirements for hazardous materials established by Federal, State, or local government agencies.

 The completeness and accuracy of the delivery order and materials and use of proper containers and labels should be verified prior to the pickup and transportation of all materials. In addition, proper loading of all vehicles should be verified. This

includes obtaining any equipment, fittings, material, and personnel required to package and load the hazardous materials onto the transporting vehicle.

Arrival and departure times for loading materials should be scheduled to allow BLM time to conduct an inspection of the loaded vehicle. The inspection focuses on quantities hauled, proper paperwork, and packaging. If the vehicle fails the inspection, corrective action should be taken before the vehicle leaves the site with hazardous materials.

- *Manifesting:* The Uniform Hazardous Material Manifest (UM) is used for each shipment of hazardous materials. To comply with this requirement, the UM should be completed as required by Federal and State regulations, including those found in subpart B of 40 CFR 262.20 (a through d). The address, phone number, and contact personnel for the UM should be furnished by BLM. The UM should be signed by a BLM authorizing officer (it may be delegated to the District Hazmat Coordinator). Each UM should include the identification numbers, contents, and quantities for each container. Names used to identify constituents should be consistent with 40 CFR 261 and 40 CFR 302.

 Upon delivery of the material to the destruction facility or other destination (including but not limited to recycling, reclamation, and intermediate storage facilities), the return copy must be submitted to BLM before any payment for disposal can be made.

- *Storage:* Materials designated for disposal should be transported directly to the destruction/disposal facility when it is cost effective to do so. In many instances, it may be more cost effective to utilize intermediate storage while waiting for analysis results or arranging for economical transportation. No item subject to any disposal time limit should be stored in such a manner that the materials would be disposed of after the statutory time limit unless approved by BLM. Items to be reclaimed or destroyed should not be stored longer than allowed by 40 CFR 265. When an intermediate storage facility is used, BLM should receive written notification at the time the material is placed in the storage facility.

 Any intermediate storage should be fully documented by maintaining schedules and destinations of the materials. Records should be kept of intermediate storage locations, and personnel should ensure that the regulatory deadlines are met.

- *Recycling, Treatment, and Disposal:* For all removed hazardous materials, originals of all appropriate certificates of acceptance, disposal, decontamination, recycling/reclaiming, or incineration, and all similar documents, should be retained by BLM. These documents should contain sufficient information for BLM to positively identify each item represented by that document, including as a minimum a list of the identification numbers and weights of all materials destroyed or disposed of and the method of disposal.

 Offsite disposal of solid waste should be at a permitted Subtitle D Landfill or other repository approved by the State. Offsite treatment and disposal alternatives and costs are summarized in the BLM Cost Estimating Handbook. Offsite disposal of hazardous waste should be limited to the EPA-permitted TSD facilities listed in Appendix A.

 Onsite treatment may consist of metals stabilization, bioremediation, constructed wetlands, and numerous other techniques. Additionally, 40 CFR 300.415 includes capping, berming, containment, and similar techniques as acceptable removal actions.

5. DESIGN

This section discusses removal action and remedial action design. For more detailed information, see EPA's *Superfund Remedial Design and Remedial Action Guidance*, OSWER Directive 9355.0-4A.

A. Remedy Selection: The NCP requires the remedy design to conform with the decision documents described in Chapter II: the Engineering Evaluation/Cost Analysis (EE/CA) Action Memorandum for non-time critical removal actions, and the ROD for remedial actions. The design contractor should also ensure compliance with all applicable, relevant and appropriate requirements (ARARs) identified in these documents.

The design contractor should consider the results of any treatability bench- or pilot-scale tests that were performed for the site and ensure that the remediation goals established by the EE/CA or ROD are attained.

B. Remedy Design: All response and disposal actions should be in compliance with RCRA, CERCLA, and TSCA, and in accordance with the latest regulations in 40 CFR, 29 CFR, 49 CFR, and 10 CFR, as well as any other Federal, State or local regulation or ordinance governing the handling, transportation, storage, and disposal of hazardous materials.

The scope of work is designed for response actions, as defined in 40 CFR 300.410, 300.415 and 300.435, required to protect the public or the environment from the release of a hazardous substance. For incidents where the Regional or Local Response Team has responded, BLM may be required to work in coordination with the Response Team. In addition, coordination with BLM Law Enforcement Officers conducting criminal and civil investigations at the site is essential.

- Plans and Specifications

 A licensed professional engineer (PE) should certify all engineering drawings, surveys, schedules, lists and quantities of materials, equipment and material specifications, bid packages, and complete cost estimates. A preliminary construction schedule should be developed with phases and sequencing of tasks. All reasonable efforts should be made to "fast-track" the project (see EPA's *Guidance on Expediting Remedial Design and Remedial Action*, EPA/540/G-90/006).

 Typical landfill or mine site design packages may address technologies such as excavation, demolition, liners, drainage control, chemical stabilization, onsite incineration, capping, grading, and revegetation. Groundwater remedies may involve pump and treat, barrier walls, slurry walls, grout curtains, or soil-vapor extraction.

- Additional Studies

 If significant data gaps are identified that require additional studies, then sampling and analysis plans, quality assurance project plans, and site-specific health and safety plans should be prepared prior to conducting additional field work.

- Operation and Maintenance

 In many instances, response activities should result in some degree of operation and maintenance (O&M) activities. The EE/CA or ROD should specify the type of O&M activities. The design should specify in detail the plans and specifications for O&M in an O&M Plan to be submitted as part of the preliminary design package.

- Permits, Licenses, Site Access, and Approvals

 Any permits and approvals required by local or State government agencies or adjacent property owners should be obtained prior to implementing any actions. Permit approvals are the responsibility of the party taking the action (i.e., the contractor or PRP).

C. **Design Review and Approval:** A prefinal design review and approval and a final design review and approval should be completed prior to commencing construction. The prefinal design submittal should consist of all plans and specifications, additional studies, the operation and maintenance plans, and all permits, licenses and approvals.

D. **Construction Oversight:** Field oversight should be performed of all construction activities, particularly at critical junctures such as prefinal inspections prior to backfill, inspections of materials and equipment delivered to the site, oversight of test results, etc., to ensure conformance with the design. Each prefinal inspection should be specified in the design package.

6. NON-TIME CRITICAL REMOVAL AND REMEDIAL ACTIONS

Construction-related tasks can be performed either by BLM or its contractor; most actual field construction activities should be performed by a contractor.

A. **Workplans:** A site-specific health and safety plan (HASP) governing all site activities should be submitted to BLM for review for general conformance with 29 CFR 1910.120. However, the HASP should not be approved by BLM, since BLM is not responsible for the contractor's employees. Site workers should be trained and supervised in accordance with 29 CFR 1910.120. A site control plan and a detailed work schedule should be submitted to BLM for review and approval. The site control plan should detail the exclusion zones, contaminant reduction zones, and support zones, and should set forth procedures for decontamination and avoidance of cross-contamination.

A project workplan should also be developed. Prior to transporting any waste material, it should be determined by onsite field testing or laboratory analysis if:

1. If the material is a hazardous waste/substance;

2. The material should be taken to a EPA/State RCRA permitted treatment or disposal facility;

3. The material is economically recyclable; or

4. The material can be treated onsite. If a release of a hazardous substance to the environment is suspected, then environmental samples should be taken in accordance with the following subparagraphs. The location and number of all environmental samples should be approved by BLM prior to their collection.

B. Hazardous Material Testing and Tracking: The laboratory used should be a participant in the EPA CLP. While samples are not actually analyzed through the CLP, laboratories should use the CLP or SW-846 protocol when processing and analyzing samples. If required by State environmental regulatory agencies, the laboratory should be certified by the State. The laboratory used by the contractor should become the owner and assume all liability for the used and unused volume of samples.

In certain instances, as directed by BLM, rapid sample characterization is critical to prompt site evaluation and response. Sampling should be adequate to support acceptance at a TSD facility and should conform to EPA standard testing methods as well as State standard methods for the parameters/chemicals in question. Sampling should provide the Bureau with a definitive answer to the question of whether the material is a hazardous waste as defined by RCRA, CERCLA, and/or TSCA.

If it is determined that a waste is hazardous, it is necessary to contact the intended disposal facility to determine the exact analyses required to complete the profile form and have the material accepted by the facility.

Recyclable materials records should document where the materials were taken for recycling and the cost involved.

The contractor should identify materials that can be treated onsite and those treatments allowed by regulation. BLM may elect, within applicable limitations of law, to have the contractor perform either onsite or offsite treatment if appropriate.

Materials determined "Hazardous" by laboratory analysis destined for offsite disposal should be disposed of as described above. Hazardous substances/wastes may also be disposed onsite under CERCLA if 40 CFR 300.415 is strictly observed. RCRA empty drums and other containers should be disposed of or recycled by the contractor.

The disposal of all hazardous substances, hazardous materials, and debris must be tracked by manifest number and BLM tracking number. All hazardous materials should be tracked from the time they leave a BLM site until they are accepted by a RCRA-permitted facility. The contractor should use the same procedures and practices to track all secondarily generated materials (including rinsate from decontamination and cleanup materials from spills or leaks). The complete record of all movements, storage, treatment, and disposal by manifest number, and BLM tracking number for all hazardous waste removed from BLM sites should demonstrate conclusively that all of the regulated materi-

als have been disposed of in accordance with the law. The above records and documentation should be included in the final report.

C. Hazardous Materials Requirements:

- Handling, Packaging, and Marking

Throughout the performance of the work, equipment used should be maintained and calibrated according to manufacturer's specifications. Handling of hazardous materials should conform to the methods and procedures specified in the programmatic work plans and must comply with all State and Federal regulations regarding the handling of a specific constituent.

Hazardous substance containers, salvage drums, and other needed packaging materials and supplies should be supplied. All containers into which hazardous waste or hazardous materials are transferred for storage or transportation should be manufactured and assembled in accordance with all applicable DOT and EPA specifications.

Hazardous wastes must be offered for transportation and shipment in accordance with the appropriate Federal and State regulations. For leaking equipment or containers, the container should contain sufficient absorbent material to prevent shifting of the contents and to absorb the entire volume of the liquid in the hazardous substance equipment.

Incompatible hazardous substances may not be mixed. Should there be more than one type of land disposal-restricted material in a container and they are required by regulation to undergo different types of shipping or disposal, then each should be separately tracked by repackaging the material and renumbering the containers.

Marking, labeling, and placarding of all containers and vehicles should be in accordance with all applicable DOT, EPA, and State requirements for the type of material they contain. Labels and markings should be properly completed and remain intact and legible until the material is finally disposed of in a permitted facility. Each container should be identified, labeled, and marked with a unique identification number prior to loading it for transportation from the BLM site. Every time the contents of a container are removed for any purpose, the contents should be tracked and documented and the new container should be labeled or marked with unique identification numbers that are traceable to the original container.

- Transportation

 Vehicles used to transport hazardous materials should comply with applicable requirements of DOT, EPA, and State agencies. They should be operated in accordance with all laws and regulations. All drivers should be trained, qualified, experienced, and licensed to transport hazardous materials in compliance with Federal and State laws and should comply with routing requirements for hazardous materials established by Federal, State, or local government agencies.

 The contractor should be physically present at the pickup location prior to the pickup and transportation of all materials to verify the completeness and accuracy of the delivery order and that the materials are properly containerized and labeled. The contractor should coordinate with BLM to schedule the pickup.

 The completeness and accuracy of the delivery order and materials and use of proper containers and labels should be verified prior to the pickup and transportation of all materials. In addition, proper loading of all vehicles should be verified. This includes obtaining any equipment, fittings, material, and personnel required to package and load the hazardous materials onto the transporting vehicle.

 Arrival and departure times for loading materials should be scheduled to allow BLM time to conduct an inspection of the loaded vehicle. The inspection focuses on quantities hauled, proper paperwork, and packaging. If the vehicle fails the inspection, corrective action should be taken before the vehicle leaves the site with hazardous materials.

- Manifesting

 The Uniform Hazardous Material Manifest is used for each shipment of hazardous materials. To comply with this requirement, the UM is completed as required by Federal and State regulations, including those found in subpart B of 40 CFR 262.20 (a through d). The address, phone number, and contact personnel for the UM should be furnished by BLM. The UM should be signed by a BLM authorizing officer. Also included with each UM are identification numbers, contents, and quantities for each container. Names used to identify constituents should be consistent with 40 CFR 261 and 40 CFR 302.

 Upon delivery of the material to the destruction facility or other destination (including but not limited to recycling, reclamation, and intermediate storage facilities), the return copy must be submitted to BLM before any payment for disposal can be made.

- Storage

 Material that has been designated for disposal should be transported directly to the destruction/disposal facility when it is cost effective to do so. In many instances, it may be more cost-effective to utilize intermediate storage while waiting for analysis results or arranging for economical transportation. No item subject to any disposal time limit should be stored in such a manner that the materials would be disposed of after BLM's statutory time limit unless approved by BLM. Items to be reclaimed or destroyed should not be stored longer than allowed by 40 CFR 265. When an intermediate storage facility is used, BLM should receive written notification at the time the material is placed in the storage facility.

 Any intermediate storage should be fully documented by schedules and destinations of the materials. Records are kept of intermediate storage locations and accumulation times to ensure that the regulatory deadlines are met.

- Treatment

 BLM-audited TSD facilities are to be used for disposing of or treating of hazardous material removed from public land (Appendix A). All facilities should be approved by BLM prior to shipping any materials to a TSD facility. It is strongly encouraged that the number of facilities used be limited and that, to the degree practicable, the facilities be those that conform to BLM policy.

- Disposal

 Originals of all appropriate certificates of acceptance, disposal, decontamination, recycling/reclaiming, or incineration, and all similar documents, should be submitted to BLM. These documents should contain sufficient information for BLM to positively identify each item represented by that document, including as a minimum a list of the identification numbers and weights of all materials destroyed or disposed of and the method of disposal.

 Offsite treatment and disposal alternatives and costs are summarized in the BLM Cost Estimating Guide. Offsite disposal of hazardous waste should be limited to the EPA-permitted facilities listed in Appendix A.

- Reports

 - *Analysis Reports:* After receiving analytical results of samples collected during the site examination, a written analysis report is prepared that characterizes the site, summarizes pertinent data, and recommends removal actions needed to eliminate threats to the public or the environment. Any analytical deficiencies or inconsistencies should be described in the analytical report to BLM.

 - *Final Reports:* Within 30 days of the final inspection of all response actions or when further response actions for a specific site are terminated by BLM, a draft narrative report to BLM should be prepared. This report should provide a detailed description of all response actions taken in association with the site and all information used to select removal actions. The report should include copies of all records, documents, inspections, and other data (including QA/QC data, sample chain of custody forms, manifests, TSD certificates, hazardous materials tracking summary, etc.) compiled during the response action and as required in the work and management plans, as well as by pertinent laws and regulations.

D. Operation and Maintenance: The design and construction contractors should fully test (including laboratory analyses) all operation and maintenance systems for a period of 60 days prior to acceptance and certification. Written O&M procedures and operator training should be provided for all aspects of facility operation and maintenance.

E. Inspection:

- Prefinal Inspection

 BLM and its designer should perform prefinal inspections at all critical points identified in the design package.

- Final Inspection and Certification

 BLM and its designer and any other authorized government agencies should perform a final inspection and certification of the construction. All deficiencies should be corrected before certification of the construction.

- Warranty

 The contractor should warrant all workmanship and materials to be free of defects for a minimum of a 1 year.

CHAPTER IV

Cost Avoidance/Cost Recovery and Potentially Responsible Party Searches

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1. INTRODUCTION

This chapter describes a process that uses CERCLA authorities to avoid spending or to recover appropriated funds to clean up hazardous substance/waste sites. With a cost avoidance/cost recovery (CA/CR) strategy, the polluter, not BLM, contributes services or pays for the cleanup (or a portion thereof) of hazardous waste contamination. BLM is therefore able to clean up more hazardous waste sites on public lands than normally would be possible under federal budget restrictions. Several other potential benefits are: (1) the formation of partnerships to prevent pollution and reduce taxpayer dollars spent cleaning up pollution from private parties, (2) the restoration of contaminated or destroyed natural resources, and (3) enhanced technological flexibility to achieve cleanups and restoration.

Some basic facts must be established and documented before pursuing a CERCLA CA/CR settlement with potentially responsible parties (PRPs). CERCLA § 104(a)(1) states that there must have been a "release" or "substantial threat" of a release into the environment of any (1) hazardous substance (as defined in CERCLA § 101(14)) or (2) pollutant or contaminant under circumstances where the pollutant or contaminant may present an imminent and substantial danger to the public health or welfare. For BLM to recover costs incurred, financial records must be kept and response actions must also have been consistent with the National Contingency Plan (NCP).

The decision to pursue CA/CR activities should be made in consultation with law enforcement special agents, Department of the Interior (DOI) Regional or Field Office Solicitors, State/District/Area Office Managers/ Hazmat Coordinators, and the Department of Justice (if the case is worth $100,000 or more). Roles and responsibilities of these individuals will vary, depending on case-specific factors. Sites may consist of, but are not limited to, unauthorized hazardous waste dumps, active and inactive R&PP landfills, abandoned or inactive mines, leaking military use areas, and hazardous waste transfer stations.

2. DEFINITIONS

The following definitions are provided to assist in understanding commonly used terms while completing CA/CR/PRP search activities.

A. **Administrative Order on Consent:** Allows BLM or its contractors (1) access to information; (2) site entry; and (3) the right to inspect and obtain samples from a site. (CERCLA §104(e)(5)(A))

B. **Administrative Record:** Contains those documents that form the basis for selection of a response action, and acts as a vehicle for public participation in selecting a response action. The record is certified by program staff, not legal staff (see BLM authority procedures).

C. **Demand letters:** Can form the basis of negotiations with PRPs and tend to expedite the negotiations process. A demand letter demands PRP payment for government cleanup and related costs.

D. **Financial Summary Report:** Evaluates the financial health of corporations, municipalities, and individuals to pay for the cleanup of hazardous substance/waste sites.

E. **General Notice letters:** Notify PRPs that they may incur, or may have already incurred, liability under Section 107(a) of CERCLA, with respect to a site. This letter also notifies PRPs of potential activities at the site that they may be asked to perform or finance at a later date.

F. **Information request letter:** Requests information about a PRP's involvement with a site, including (1) the identification, nature, and quantity of materials that have been or are generated, treated, stored, or disposed of at a site or transported to a vessel or site; (2) the nature or extent of a release or threatened release of a hazardous substance or pollutant or contaminant at or from a vessel or site; and (3) information relating to the ability of a PRP to pay for or to perform a cleanup. (CERCLA § 104(e))

G. **Litigation Support Document:** Composed of information from a technical support document (TSD), plus the legal aspects of a case. LSDs are prepared for the U.S. Department of Justice (DOJ) to use whenever a case is referred to DOJ for litigation support.

H. **Non-Binding Allocation of Responsibility (NBAR):** Provides numerical rating factors for PRP evidence and allocates payment responsibilities. These documents may facilitate earlier case settlements with PRPs and are used by DOI Solicitors and DOJ in settlement negotiations.

I. **Potentially responsible party (PRP):** Parties liable for payment of government cleanup costs, including companies that generate any hazardous substances found at a site, present and former operators/ landowners, and certain transporters who dispose of hazardous substances at a site.

J. **PRP Search:** An investigative effort to determine a responsible party at hazardous substance/waste sites. Investigations typically include

interviewing personnel, reviewing Federal/State/local files, sending CERCLA § 104(e) letters, conducting on-site inspections, photocopying records, and establishing computer databases. Reports may include a PRP's ability to pay for the cleanup action and related costs.

K. **Recoverable costs:** Direct and indirect costs for cost recovery, including expenses for (1) preliminary assessments/ site investigations (PA/SIs); (2) PRP searches; (3) removal and remedial activities, including remedial investigations/ feasibility studies (RI/FS) and remedial design/ remedial actions (RD/RA). BLM can also collect interest on money spent for these activities pursuant to CERCLA § 107(a)(4). (CERCLA § 107(a))

L. **Settlement agreements:** Agreements for PRPs to contribute funds or services for completion of PA/SIs, and to perform all or part of the removal/remedial activities. (CERCLA § 122(a)) In other instances, settlement agreements might recover all or part of the expenses BLM incurred to complete PA/SIs and perform removal/remedial activities. (CERCLA § 122(h))

M. **Special Notice letters:** Trigger a moratorium or commencement of actions, such as 90 days for completion of the RI/FS, or 120 days for an RD/RA. Special Notice letters provide PRPs with an opportunity to complete the requested action. (CERCLA § 122(e))

N. **Technical Support Document:** Provides a summary of the facts of a case, with supporting exhibits. TSDs are typically prepared for DOI Regional/Field Office Solicitor use.

3. PRE-REMOVAL/REMEDIAL ACTIVITIES

The identification of PRPs is the first step in CA/CR actions. The PRP search should uncover all PRPs with whom BLM may negotiation and from whom BLM may seek contributed services or recovery of costs in the future. The PRP search initiated following site discovery may continue through the cleanup process. The extent of further PRP search activities may depend on the expected costs of the removal/remedial action. (Note: Law Enforcement personnel should be used for PRP searches.)

A PRP search and PRP Search Report should include:

- the history of operations at the site
- a search of District/Area/State Office files for PRP leases, permits, and/or mining claims

- a summary of interviews with PRPs, government officials, etc.
- a summary of responses to CERCLA § 104(e) information request letters
- a summary of all evidence linking PRP waste(s) constituents with those contaminants of concern found at the site
- PRP status (i.e., current address, state of incorporation, parent corporation, and financial condition)
- copies of supporting exhibits referenced in the PRP Search Report

Once PRPs have been identified and linked to site operations/ contamination, general notice letters should be sent to each PRP. These letters notify PRPs that they may incur, or may have already incurred, liability under Section 107(a) of CERCLA and encourage the PRP to contact BLM to negotiate an agreement.

If it appears that negotiations will not result in a settlement agreement, demand letters may be sent to PRPs demanding payment for past BLM response costs (costs for PA/SIs and PRP searches) and estimated future response costs. (*Note:* negotiation team members consist of BLM representatives and the DOI Regional/Field Office Solicitor.)

If general notice letters and demand letters fail to result in a settlement agreement with PRPs, then BLM should begin the process of site cleanup using appropriated funds (depending on availability). Negotiations should continue throughout the BLM response action, if possible.

For remedial actions, special notice letters should be used to provide PRPs with a specific opportunity to negotiate terms of an agreement for their participation in conducting the RI/FS. Special notice letters should also include a demand for payment of past costs if a removal action financed with appropriated funds has been conducted at the site and a demand letter has not already been sent.

As the proposed plan and draft RI/FS are made available for public comment, the District/Area Offices should again send special notice letters to all identified PRPs to provide them with an opportunity to negotiate regarding conduct of the RD/RA. Design/construction negotiations should take no longer than 60-120 days.

4. POST-REMOVAL/REMEDIAL ACTIVITY

If an agreement with PRPs has not been reached and BLM has completed removal/remedial actions, the District/Area Offices should gather financial records that serve to support a cost recovery action. The negotiation team should then consider the following factors:

- the amount of cost at issue
- the strength of the evidence connecting the potential defendant(s) to the site
- the availability and merit of any PRP defense (see §107 of CERCLA)
- the quality of the release, remedy, and expenditure documentation by BLM, a State, or a third party
- the financial ability of the potential defendant(s) to satisfy a judgement for the amount of the claim or to pay a substantial portion of the claim in settlement
- the statute of limitations
- other cases competing for resources

If the negotiation team believes that the circumstances are appropriate for a cost recovery action, a litigation support document is prepared by Regional/Field Office Solicitors and BLM representatives to refer the case to the U.S. DOJ for litigation support.

5. BLM's CERCLA AUTHORITY

CERCLA authorities have been delegated to the Secretary of the Interior (under Executive Order 12580, 52 Fed. Reg. 2923 (January 23, 1987)) that provide BLM with CA/CR authorities for the cleanup of illegal or abandoned hazardous substance/waste sites. CERCLA authorities relevant to CA/CR (and PRP search) actions include:

- Section 104(e): Information gathering and access
- Section 104(e)(5)(A): Compliance Orders
- Section 107(a): Recoverable costs, etc.
- Section 122(a): Authority to enter into agreements

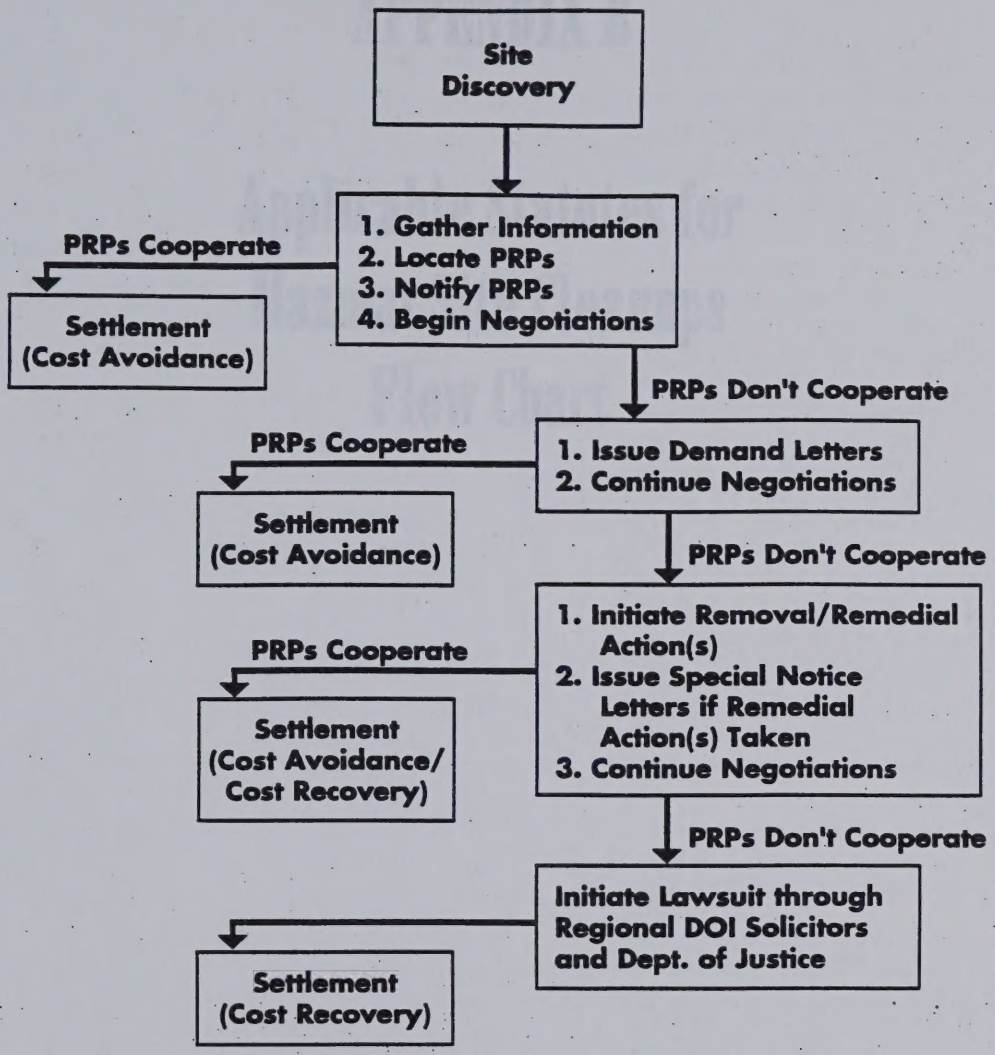
- Section 122(h): Cost recovery settlement authority

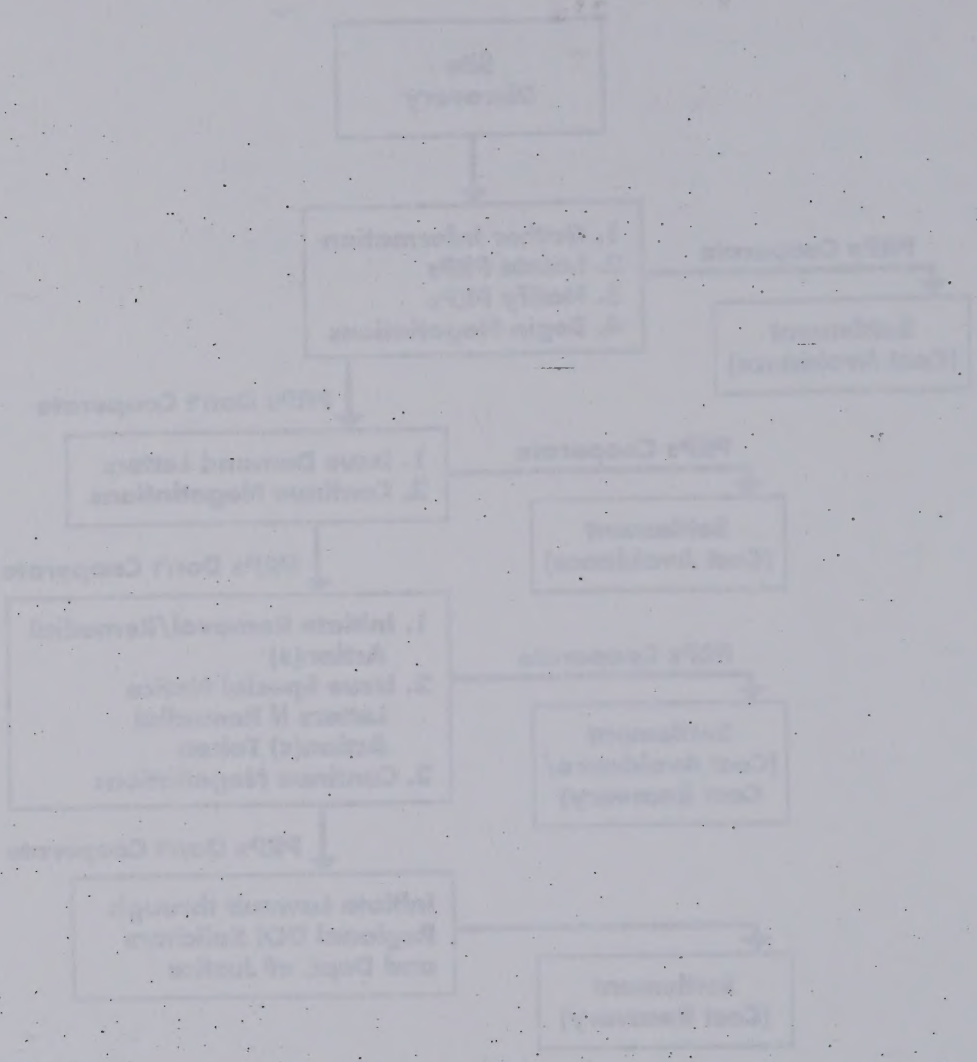
- Section 122(e)(1): Special Notice

Please call your State Hazmat Coordinator for appropriate signature authority (i.e., Secretary of the Interior, Director, State Director, or District Manager).

APPENDIX A

Cost Avoidance/Recovery Process Flow Chart

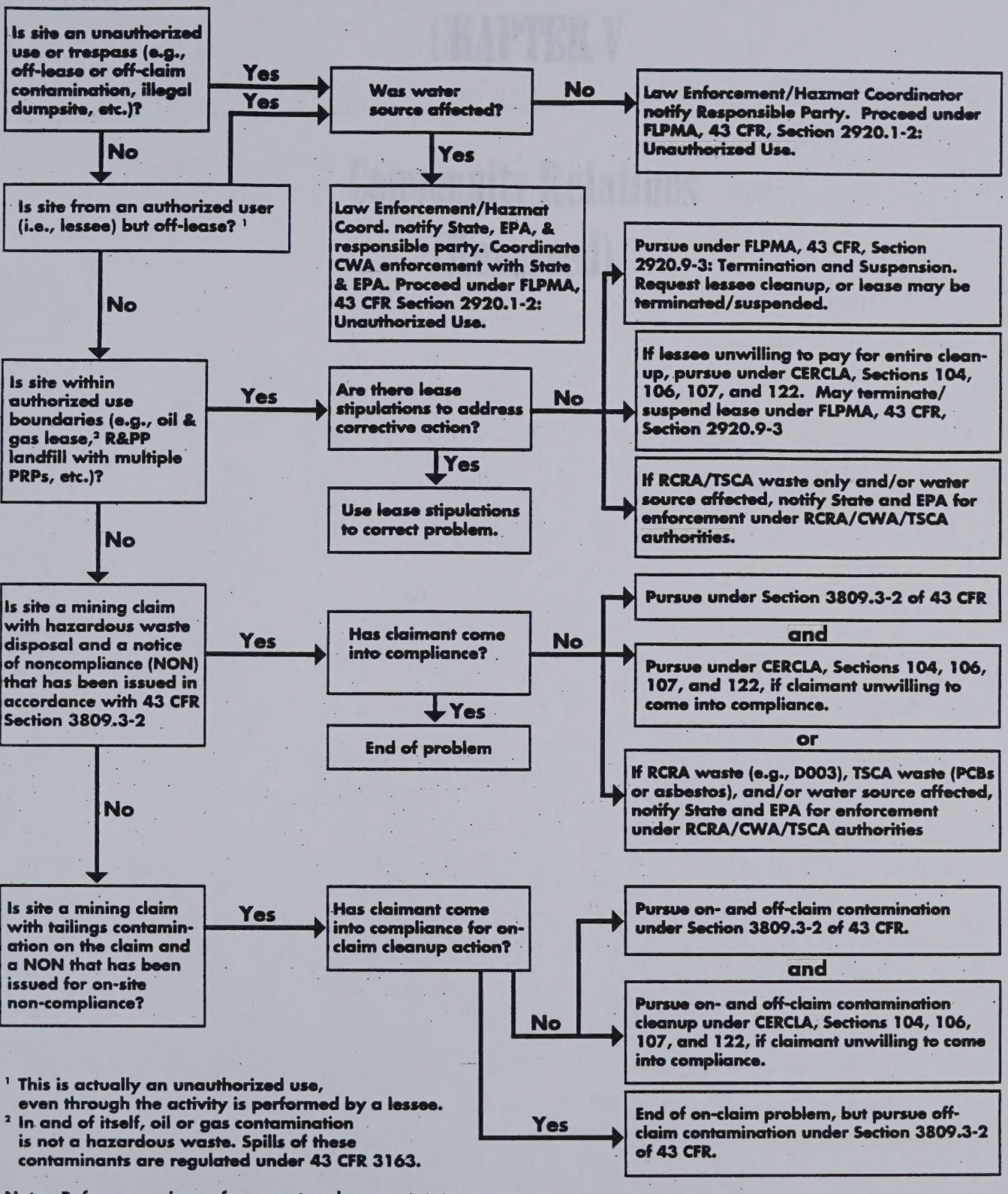

Site Discovery
1. Gather Information
2. Locate PRPs
3. Notify PRPs
4. Begin Negotiations
PRPs Cooperate
Settlement (Cost Avoidance)
PRPs Don't Cooperate
1. Issue Demand Letters
2. Continue Negotiations
PRPs Cooperate
Settlement (Cost Avoidance)
PRPs Don't Cooperate
1. Initiate Removal/Remedial Action(s)
2. Issue Special Notice Letters if Remedial Action(s) Taken
3. Continue Negotiations
PRPs Cooperate
Settlement (Cost Avoidance/ Cost Recovery)
PRPs Don't Cooperate
Initiate Lawsuit through Regional DOI Solicitors and Dept. of Justice
Settlement (Cost Recovery)



APPENDIX B

Applicable Statutes for Hazmat Site Cleanups Flow Chart

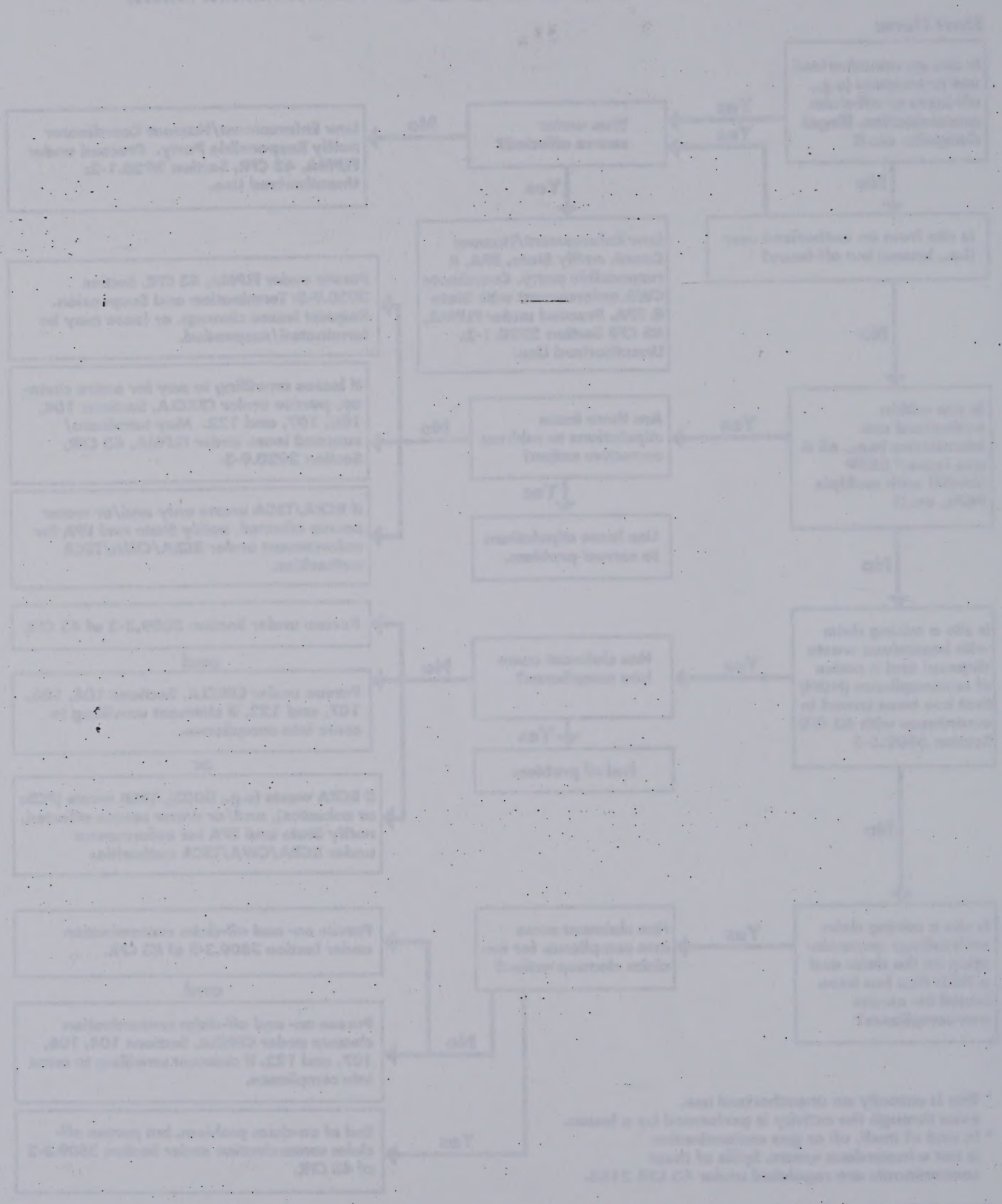
Hazardous Substance Releases



[1] This is actually an unauthorized use, even through the activity is performed by a lessee.

[2] In and of itself, oil or gas contamination is not a hazardous waste. Spills of these contaminants are regulated under 43 CFR 3163.

Note: Before pursuing enforcement under any statute, resource specialists should contact a Solicitor.



CHAPTER V

Community Relations
(Reserved)

CHAPTER VI

Natural Resource Damage Assessment

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1. INTRODUCTION

Natural Resource Damage Assessment (NRDA) is a tool for BLM resource management. It is the process of (a) determining natural resource injuries resulting from releases of hazardous substances, (b) determining damages, and (c) planning resource restoration. BLM's authority to recover natural resource damages comes from CERCLA. CERCLA provides that natural resource trustees may conduct damage assessments for natural resources affected by releases of hazardous substances, and may seek to recover those damages. BLM is responsible to carry out trustee activities for the Secretary of the Interior, who is a natural resource trustee. BLM's obligation to restore injured natural resources stems not only from CERCLA, but also from the Federal Land Policy and Management Act (1976), which charges BLM with managing and protecting natural resources under its jurisdiction.

NRDA enables BLM and other natural resource trustees to collect money from polluters to restore or replace injured natural resources, and to be reimbursed for the costs of doing the NRDA. NRDA culminates in claiming damages from potentially responsible parties (PRPs), and then using the money obtained to restore injured resources and compensate the public for service losses. Because its goal is restoration, NRDA could be viewed as a resource restoration program.

NRDA is specifically addressed in CERCLA sections 107, 113, and 122. The regulations implementing NRDA for CERCLA releases are in 43 Code of Federal Regulations Part 11, promulgated by the Department of the Interior (DOI). Much of this chapter is summarized from those regulations. Be sure to refer to the regulations when engaging in NRDA activities; it will also be helpful to review CERCLA to gain an understanding of the origins of NRDA.

The resource restoration process also applies to oil spills, as governed by the Oil Pollution Act (OPA) of 1990. The Department of Commerce, through the National Oceanographic and Atmospheric Administration (NOAA), is charged with promulgation of regulations to implement OPA (15 CFR Part 990). In most respects, the natural resource damage regulations under OPA and CERCLA are similar.

If a site has a discharge of oil (covered by OPA) and a release of a hazardous substance (covered by CERCLA), then the response and NRDA activities conducted at the site should follow the CERCLA regulations.

In this guide, the term "trustee" represents each of the agencies and their bureaus that are seeking restoration of the natural resources under their jurisdictions (see definitions section). For the Department of the Interior (DOI), the Secretary is the designated Trustee, pursuant to Executive Order 12580. On NRDA projects where BLM has resource interests, BLM participates

in the "trustee" team that carries out DOI's stewardship mission; BLM is thus responsible for carrying out the Secretary's trust responsibilities on public lands.

BLM may join with other DOI bureaus on DOI's trustee team for a site, and BLM may be designated as the authorized official (see definitions section) to manage and implement an NRDA for a specific site. The trustee team may also involve other federal, state, and tribal agencies who share resources affected at the site.

The following sections provide basic guidance for NRDA activities. First, there is a narrative overview of the process and a process flow chart (Figure 1). Next is a graphic comparing the conceptual, functional, and procedural NRDA processes (Figure 2). Then there are some key points to remember and brief discussions of funding, legal issues, NRDA and the National Contingency Plan (NCP), and NRDA documents, followed by a definitions section. The preliminary natural resource survey is briefly described after the definitions.

The bulk of this chapter consists of a descriptive outline of the NRDA process. This outline emphasizes scoping and preparation to do NRDA, with brief descriptions of later NRDA stages. The NRDA activities are described primarily in terms of tasks to be carried out.

2. OVERVIEW OF NRDA AND RESTORATION (NRDAR)

This outline represents a condensed sequence of NRDA activities. Use this as a generalized thought process for delving into the text of this chapter.

- ***NRDA Purpose:*** To identify resource injury and restoration needs.
- ***Goal:*** To restore injured resources and services.
- ***Essential Terms:*** injury, services, damages, baseline, restoration.
- ***Laws:*** CERCLA and OPA; Regulations for CERCLA: DOI—43 CFR 11; Regulations for OPA: NOAA—15 CFR 990.
- ***NRDA Elements:*** Scientific, Multi-disciplinary, Legal, Administrative.

A. Restoration—Keeping the Goal in Mind

1. Restore natural resources promptly to real baseline conditions.
2. Identify restoration needs, options, and costs.
3. Seek to negotiate with potentially responsible parties (PRPs) for money or work; oversee contributed work.
4. Restoring without doing a full assessment? Determine the benefits versus the trade-offs.

Natural Resources Damage Assessment
Process Flow Chart

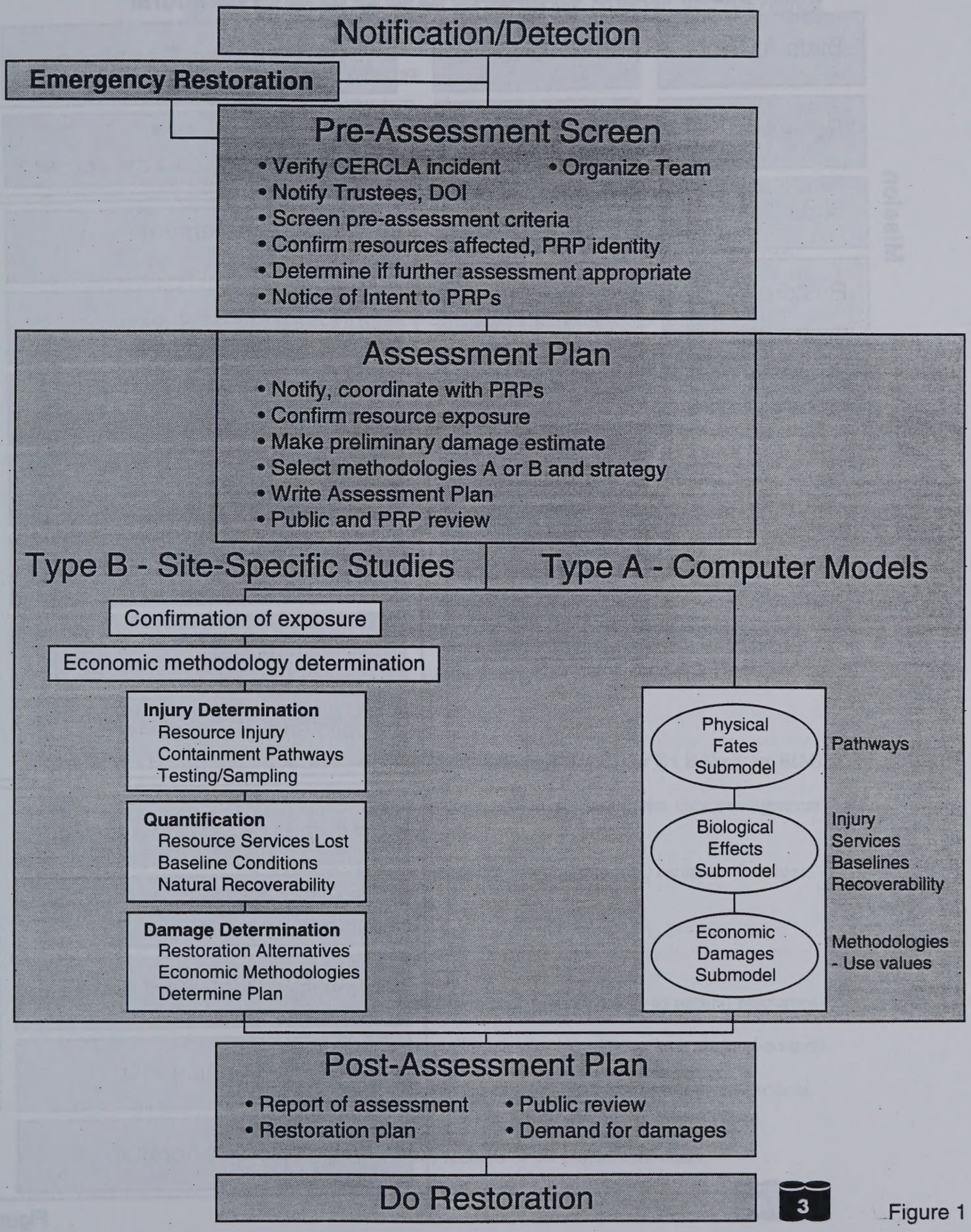


Figure 1

Conceptual, Functional, & Procedural NRDA Processes

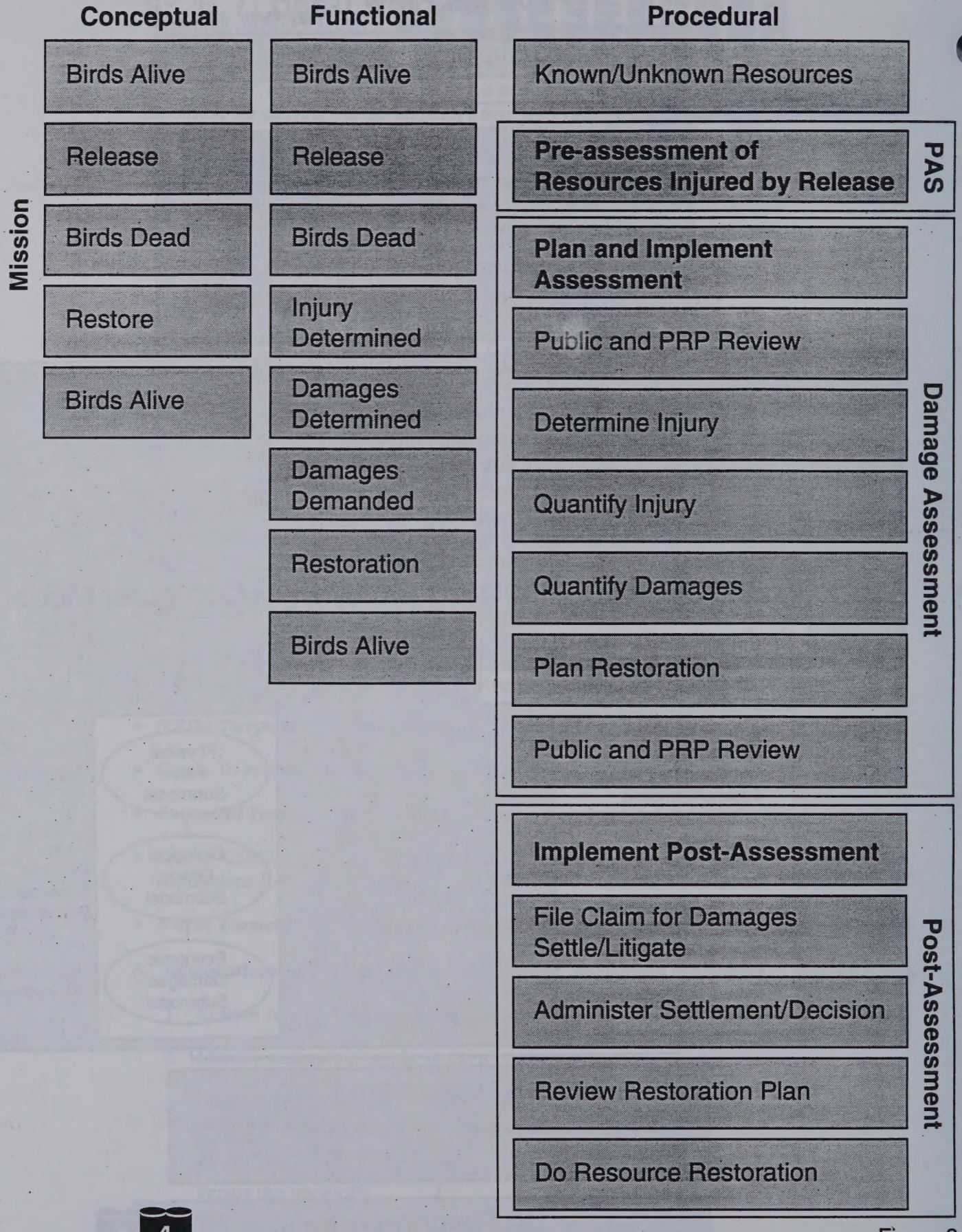


Figure 2

B. Initiating the Process

1. Discovering the incident: Notify responders and trustees; organize the trustees.
2. Coordinate and cooperate with responders, law enforcement, and safety to promote efficiency.
3. Injury scoping and pre-assessment: evaluate using the five Pre-Assessment Screen (PAS) criteria and existing site information.
4. Find and involve potentially responsible parties (PRPs).
5. Get funding sources: PRPs, DOI funds, or BLM appropriated funds.
6. Economics: Compare anticipated NRDA cost versus the extent of injury and possible damages.
7. Acquire non-PRP funds; track all related expenditures.
8. Decision to do NRDA; "Notice of Intent" to PRPs.

C. Implementing the NRDA Process—Determining Injury, Damages, Restoration

1. Organize the trustee group, identify PRPs, seek PRP involvement.
2. Plan for assessment funding, sources: PRPs, DOI Fund.
3. Plan the Assessment:
 - Select the assessment methodology: Type A or B (B likely for BLM).
 - Plan the scientific strategy, analytical procedures, data management and sharing.
 - Confirm resource exposure to contaminants, estimate damages.
 - Get public and PRP review, involvement.
4. Conduct Assessment:
 - Collect data to determine and quantify injury to natural resources.
 - Maintain high data quality assurance/quality control, chain-of-custody.
 - Determine damages: the costs of resource restoration, services compensation, and the assessment itself.
 - Track and maintain records of all assessment costs

5. Report the Assessment:
 - Report findings of injury determination and quantification.
 - Report restoration alternatives and the preferred method.
 - Report damages: the costs of the restoration, compensation, and the assessment.
 - Get PRP and public review on the Report of Assessment.
6. Use the Assessment:
 - Issue a demand letter to PRPs for monetary damages.
 - Get the money, through settlement or in court, and manage it to maximize restoration.
 - Make final plans for natural resource restoration

D. Restore injured natural resources and compensate the public for losses of resource services

3. BLM NRDA

A. Key Points to Remember: BLM specialists who undertake the scoping, planning, and conduct of NRDA projects for BLM resources should bear in mind some key thoughts. NRDA is a process that can become complicated when sites are complex or there are multiple trustee interests. The following ideas may help in avoiding confusion and in maintaining focus on the real goal of expeditious restoration.

- First, ensure that response and remedial actions address natural resource injuries as completely as possible.
- Restore injured natural resources as promptly as possible.
- Identify PRPs as promptly as possible.
- Seek cooperation from financially viable PRPs before committing significant resources to an assessment.
- Involve other BLM resource specialists as early as possible.
- Contact NARSC and the Regional Environmental Officer, and follow your hazardous materials contingency plan, when learning of a release and potential NRDA.

- Enlist the help of a Department of the Interior Solicitor immediately upon beginning to scope an NRDA.

- Enlist the help of an economist as soon as you become aware of significant injury.

- When conducting the early phases of NRDA activities, focus information gathering toward restoration planning.

- Most sites include resources that are managed by other bureaus (e.g., the Fish and Wildlife Service); contact them as early as possible.

- States are virtually always a trustee or co-trustee for resources on public lands and must be contacted promptly.

- Seek to negotiate with PRPs to reach settlement; avoid doing a complicated and expensive NRDA if you can.

- Be prepared to compromise if a settlement is possible, but do not give up the restoration work that is truly necessary.

- Natural resource injury could result from the initial release of a hazardous substance or contaminant, or it could result from contaminants already in the environment that have undergone secondary or later releases. The time of resource exposure to the contaminant is the critical factor.

- As a legal and practical matter, it will be difficult to collect damages for natural resource *injuries* that have occurred before 1980. If the release causing the injury occurred entirely before 1980, the injurious effects of the release for which natural resource damages may be claimed must have happened after 1980.

- Keep track of all spending on NRDA work; include these expenses in the damages negotiated or litigated.

- The NRDA process calls for data standards sufficient to undergo courtroom scrutiny, if the trustees sue PRPs in court for damages. Data quality requirements are stringent, as they are for other National Contingency Plan (NCP) activities.

- Following the DOI NRDA procedures (43 CFR 11) is not mandatory. Doing so, however, provides a rebuttable presumption in court, i.e., the presumption of correctness of the trustees' data, which may add support to the trustees' case.

- Groups and interested parties other than PRPs may be willing to contribute to restoration work. Flexibility and ingenuity in implementing restoration can stretch restoration dollars and increase project success.

B. Funding for BLM NRDA: The first and best source to be sought for NRDA funding is the PRPs; PRP funds can be held in locally controlled accounts and dedicated to specific NRDA projects. Funding of NRDA activities can also come from BLM appropriated funds, particularly in the 1600 account or from another "benefitting" activity. Funds are also available from the Department of the Interior's (DOI) NRDAR Fund. The stage of NRDA activity determines potential availability:

1. NRDA Initiation

 Initial work at the scoping stage and before the Pre-Assessment Screen (PAS) can be supported by DOI funds in amounts up to $5,000 for each new site. Requests should be made to NARSC, with a description of the situation.

2. Formal NRDA

 Activities that are part of the assessment process, i.e., from the PAS through the Restoration Plan, should be supported by the DOI Fund. Requests for these funds must be made through a defined, competitive proposal process and submitted to the Department. Proposal amounts may exceed $100,000 per year. Proposals typically are submitted jointly by all trustee group members and represent all of the collective funding needs they anticipate for the next funding period. NARSC is available to assist in proposal preparation.

C. Legal Issues: NRDA is a process designed for acquiring litigation-quality information in order to sue PRPs for natural resource damages. All BLM dealings with PRPs for damages, whether they involve negotiated settlements or litigation, require legal representation by DOI's Solicitor. The federal government requires legal representation by the Department of Justice. On the basis of the trusteeship described in CERCLA and delegated by Executive Order 12580, the trustees can sue PRPs for damages in civil court. The identification and pursuit of PRPs for NRDA purposes follow the same process as the one used for response and remedy reimbursement under the NCP, because the burden of PRP liability is identical under CERCLA. A mandatory additional NRDA step is to show that the resource injury was the result of the PRP's release.

D. NRDA and the NCP: CERCLA site management includes both the NCP process for environmental response and remediation, and the NRDA process for evaluation and restoration of natural resource injuries. The emphasis of the NCP is on human health, so NCP remediation is not required to address resource restoration. The NRDA process, on the other hand, addresses natural resource injuries left *after* site cleanup. However, the two processes should be carried out at the same time, and synchronized if possible, because they require much of the same information and are each more efficient when investigative work is conducted for both processes.

Figure 3 shows the NCP and NRDA processes, presented side by side. When fully implemented, both involve long-term, costly data collection and extensive public participation, culminating in decisions for action. Most BLM sites are not on EPA's National Priorities List, so the NRDA assessment should coincide with the NCP process, although the specific steps, for example Removal SI and Pre-Assessment Screen, might not occur at exactly the same time. Working the processes together is clearly the most efficient way to save time and resources and to share data collection efforts, data, and costs. In addition, PRP cooperation is probably more likely if remedy and restoration can be designed and implemented together. However, at NPL sites, the formal NRDA process must wait until the NCP Record of Decision on remedial action is completed.

Work with the regulators and response agencies as much as possible, from the moment of site discovery, to evaluate possible resource injury while developing knowledge of the release, and to assist them in planning the remedy and addressing injuries early. Virtually every release results in some measure of resource impact. In some cases, the best information about the resource impacts may be available immediately after the release. On historical sites, resource impact information may diminish with time, or evidence may become more subtle. The magnitude of the impacts, coupled with the value and restorability of the impacted resources, determine the likelihood that the cleanup will adequately address the resource impacts and the advisability of doing NRDA activities.

There are situations where some NRDA activities cannot be conducted at the same time as NCP activities. If a site is on the National Priorities List, the trustees may not file an NRDA suit until after the cleanup measures are determined because the injuries left after cleanup cannot be determined until the cleanup effects are known. In these cases, pre-assessment and assessment work can still be done to assist cleanup planning, to address resource impacts, and to prepare the trustees' case. A second instance is at sites where the BLM may have release liability; here it may be advantageous to keep BLM's NRDA activities separate from its response work.

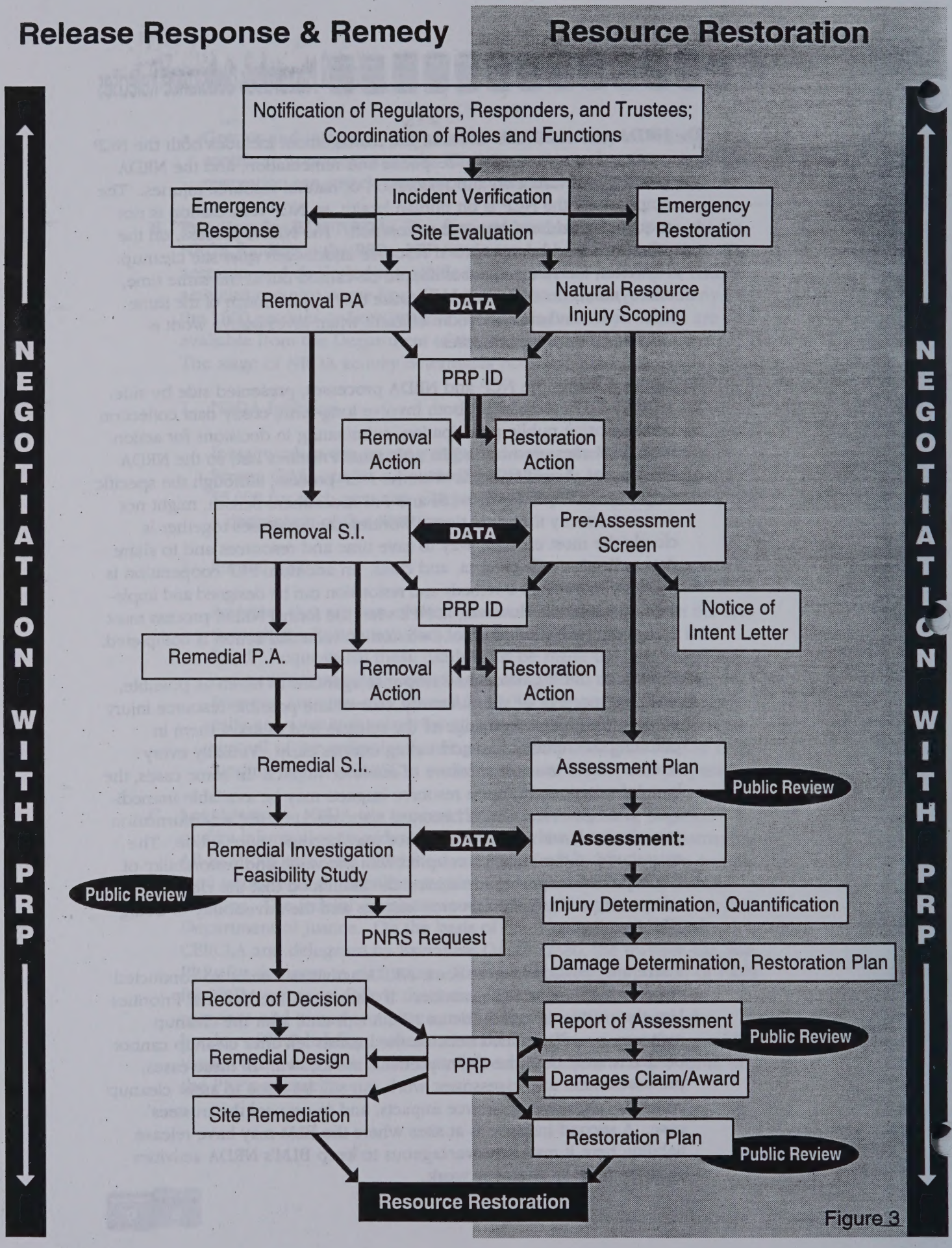

Release Response & Remedy
Resource Restoration
NEGOTIATION WITH PRP
NEGOTIATION WITH PRP
Notification of Regulators, Responders, and Trustees; Coordination of Roles and Functions
Incident Verification
Site Evaluation
Emergency Response
Emergency Restoration
Removal PA
DATA
Natural Resource Injury Scoping
PRP ID
Removal Action
Restoration Action
Removal S.I.
DATA
Pre-Assessment Screen
PRP ID
Notice of Intent Letter
Remedial P.A.
Removal Action
Restoration Action
Remedial S.I.
Assessment Plan
Public Review
Remedial Investigation Feasibility Study
DATA
Assessment:
Public Review
Injury Determination, Quantification
PNRS Request
Damage Determination, Restoration Plan
Record of Decision
Report of Assessment
Public Review
Remedial Design
PRP
Damages Claim/Award
Site Remediation
Restoration Plan
Public Review
Resource Restoration

Figure 3

E. NRDA Documents: Each NRDA project involves the writing of several documents that disclose the intentions and actions of the trustees and that are subject to review and comment from the public and PRPs. In this way, the trustees meet the requirement of the National Environmental Policy Act, which calls for public participation in significant or costly actions taken by government agencies. The documents are as follows:

- The Pre-Assessment Screen and Notice of Intent, provided in final form to the PRPs, indicate the trustees' intent to conduct an assessment.

- The Assessment Plan, provided in draft to the public and PRPs for review and comment, presents the trustees' plans for conducting a cost-effective assessment. If enough data are available at this early stage of the process, the Assessment Plan can include the Restoration and Compensation Determination Plan, which describes options and a preferred alternative for restoration. The Assessment Plan becomes the trustees' specific guidance for conducting the assessment project.

- The Report of Assessment, provided in draft to the public and PRPs for review and comment, presents the findings and conclusions of the assessment. It includes the Restoration and Compensation Determination Plan, which was developed either during previous assessment planning or during the assessment itself. The determination plan describes the options and preferred alternative for restoration, along with the total resource damages to be claimed. The Final Report of Assessment also contains the public and PRP comments received on the Draft Report and the other documents, and includes trustee responses.

- The Restoration Plan, provided in draft to the public and PRPs for review and comment, presents the final planned restoration actions that are possible with the damages actually obtained from the PRPs. This plan becomes the trustees' specific guidance for restoring injured natural resources and services.

4. DEFINITIONS

The following definitions are intended to assist in understanding the NRDA process. They are based on those listed in 43 CFR Part 11.14. Other definitions relating to NRDA and CERCLA are in Chapter 2.

A. Authorized official (AO): The Department of the Interior Bureau or Office official who is designated to represent the Secretary and be responsible for the management and conduct of an NRDA at a site. As per the DOI regulations, the AO is the Federal, State, or Tribal official

to whom is delegated the authority to act on behalf of that Federal, State, or Tribal agency designated as trustee, pursuant to Section 126(d) of CERCLA, to perform a natural resource damage assessment. The AO could act as the "lead authorized official". "Lead authorized official" means a Federal, State, or Tribal official authorized to act on behalf of all affected Federal, State, and/or Tribal agencies acting as trustees, where there are multiple agencies affected because of coexisting or contiguous natural resources or concurrent jurisdiction.

B. **Baseline:** The condition of the resources and services that would have existed at the assessment area had the release of the hazardous substance under investigation not occurred, as measured at the site before or without the release, or at a control (unaffected) area. Baseline does not mean pristine, unless the trustees can show that this would have been the resource condition without the specific release.

C. **Control area or control resource:** An area or resource unaffected by the discharge of oil or release of the hazardous substance under investigation. A control area or resource is selected for its comparability to the assessment area or resource and may be used for establishment of the baseline condition and comparison to injured resources.

D. **Damages:** The amount of money sought by the natural resource trustee to pay for restoration of injured resources, compensate the public for lost resource services, and reimburse the trustees for assessment costs, as set forth in sections 107(a) or 111(b) of CERCLA.

E. **Injury:** A measurable adverse change, either long- or short-term, in the chemical or physical quality or the viability of a natural resource resulting either directly or indirectly from exposure to a discharge of oil or release of a hazardous substance, or exposure to a product of reactions resulting from the discharge of oil or release of a hazardous substance. Injury encompasses the phrases "injury," "destruction," and "loss."

F. **Natural resources or resources:** The land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other similar resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States, any State or local government, or any foreign government, any Indian tribe, or, if such resources are subject to a trust restriction on alienation, any member of an Indian tribe. These natural resources have been categorized into the following five groups: surface water resources, ground water resources, air resources, geologic resources, and biological resources.

G. **Natural Resource Damage Assessment (NRDA) or assessment:** The process of collecting, compiling, and analyzing information,

statistics, or data through prescribed methodologies to determine and claim damages for injuries to natural resources.

H. **Natural resource emergency:** Any situation related to a release requiring immediate action to avoid an irreversible loss of natural resources or to prevent or reduce any continuing danger to natural resources, or a situation in which there is a similar need for emergency action.

I. **Reasonable cost:** The amount that may be recovered for the cost of performing a damage assessment. Costs are reasonable when the Injury Determination, Quantification, and Damage Determination phases have a well-defined relationship to one another and are coordinated, and when the anticipated cost of the assessment is expected to be less than the anticipated damage amount determined in the Injury, Quantification, and Damage Determination phases.

J. **Rebuttable presumption:** The evidentiary weight that must be given in any administrative or judicial proceeding under CERCLA or CWA to any determination or assessment of damages that is made by a Federal or State natural resource trustee, when the trustee makes that determination or assessment in accordance with the regulations. Evidentiary weight means that the trustee's finding is basically presumed to be correct during such proceedings. The trustee's finding may still be refuted by the PRP, however.

K. **Recovery period:** Either the longest length of time required to return the services of the injured resource to their baseline condition, or a lesser period of time selected by the authorized official and documented in the Assessment Plan.

L. **Replacement or acquisition of the equivalent:** The substitution for an injured resource with a resource that provides the same or substantially similar services. This substitution is in addition to any substitutions made as part of response actions, and exceeds any substitution taken as part of response actions at the site that are pursuant to the NCP.

M. **Restoration or rehabilitation:** Actions undertaken to return an injured resource to its baseline condition, as measured in terms of the injured resource's physical, chemical, or biological properties or the services it previously provided, when such actions are in addition to response actions completed or anticipated, and when such actions exceed the level of response actions determined appropriate to the site pursuant to the NCP.

N. Services: The physical and biological functions provided by the resource, including the human uses of those functions. These services are the result of the physical, chemical, or biological quality of the resource.

O. Site: For NRDA, an area or location where natural resource injuries exist because of exposure to hazardous substances. This area might extend beyond the "site" as defined for response actions under the NCP, and may encompass any lands where hazardous substances have been stored, treated, discharged, released, disposed of, placed, or otherwise came to be located.

P. Tribe: Any Indian tribe, band, nation, or other organized group or community, including any Alaska Native Village but not including any Alaska Native regional or village corporation, that is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

Q. Trustee or natural resource trustee: Any federal natural resources management agency designated in the NCP, and any state agency designated by the Governor of each State, pursuant to Section 107(f)(2)(B) of CERCLA, that may prosecute claims for damages under section 107(f) or 111(b) of CERCLA; or an Indian tribe that may commence an action under section 126(d) of CERCLA. Executive Order 12580 designates the Secretaries of the federal resource management departments as trustees.

R. Type A assessment: Standard procedures, such as models and predetermined formulas, used for simplified assessments that involve minimal field observation work in determining damages. Type A methodologies have been developed for coastal, marine, and great lakes environments.

S. Type B assessment: Case-specific investigations and analyses for conducting assessments to determine the type and extent of short- and long-term injury and damages. Type B assessments are appropriate at inland sites and where circumstances require site-specific analyses.

5. PRELIMINARY NATURAL RESOURCES SURVEY

The Preliminary Natural Resource Survey (PNRS) is a cursory evaluation of existing information that a natural resource trustee makes to determine whether the trustee's resources may be affected by remedial actions at an EPA NPL site. In preparation for remedy selection at NPL sites, EPA requests information from all natural resource trustee agencies potentially having resources at risk at the site. The information requested is the trustees' positions regarding potential injuries to resources for which they have trusteeship, and whether they wish to be involved in remedy determi-

nation based on those resource concerns. The PNRS is generally similar in scope and function to the Pre-Assessment Screen (see below).

The EPA regional offices periodically notify the regional environmental officers (REOs) of the Secretary of the Interior, based on memoranda of understanding, about NPL sites in their regions that are undergoing remedy planning. The REOs then notify each Bureau that may have resource interests at the sites, requesting the PNRS information.

The PNRS is not a formal part of the NRDA process. It happens separately from NRDA activities that might take place at an EPA NPL site. It is a component of EPA's National Contingency Plan (NCP) process (see sections 107 and 111) that relates to NRDA because it deals with the issue of natural resource injury.

Three basic outcomes are possible when trustees receive a PNRS request:

- Trustees may find no injury concerns, in which case the PRPs normally require them to sign a covenant not to sue the PRPs for natural resource damages.

- Trustees may choose to participate in remedy determination to address their natural resource concerns during the cleanup, instead of having to wait until afterward to conduct an assessment. PRPs typically request, and EPA usually encourages, a covenant not to sue from trustees if the trustees have this opportunity to address resource concerns.

- Trustees may choose not to participate in the remedy determination, opting instead to pursue NRDA activities if their resource concerns are great or information for determining concerns is insufficient at the time of the PNRS request. At NPL sites, an NRDA claim can come only *after* the NCP remedy selection and implementation because it can address only those injuries that will remain after the cleanup.

Information gathered by trustees in responding to an EPA request for a PNRS typically consists of brief evaluations of whether resources of concern are present or absent. Trustees generally use contaminant information available from the remedial investigation already completed for the site. If the available information does not allow the trustees to be certain that resource interests are protected, then the third option may be selected in order to obtain time for the necessary analyses.

Field offices can be prepared for PNRS requests from EPA by maintaining awareness of NPL site activities in their jurisdictions, and by gathering, at a minimum, reconnaissance information about the sites during remedial investigations and feasibility studies. For sites on BLM lands, such informa-

tion should be readily available because of the Bureau's direct involvement with EPA in site investigations and management.

Individual trustees, such as the Secretaries of Interior, Agriculture, and Commerce, may act independently, based on their respective resource concerns.

6. NRDA PROCESS

The NRDA process uses a planned and phased approach to the assessment of natural resource damages. This approach ensures that all procedures used in an assessment are appropriate, necessary, and sufficient to assess damages for injuries to natural resources (see 43 CFR 11.13).

A. Pre-Assessment Phase: The purpose of the pre-assessment screen (PAS) is to decide and document whether a natural resource damage assessment can and should be performed (see 43 CFR 11.20). As the initial phase, it includes the NCP notification, coordination, and emergency restoration activities. It culminates with the PAS and Notice of Intent documents.

The PAS is a review of readily available information, in some cases with limited sampling. The review should ensure that there is a reasonable probability of making a successful claim *before* monies and efforts are expended in carrying out an assessment.

1. NRDA Scoping

The site circumstances listed below, individually or in combination, suggest the potential of natural resource injuries resulting from the release. Hazardous materials specialists should employ their skills in identifying field contamination. Natural resource injuries may be easily detectable or difficult to identify; detection may require skilled natural resources staff. The trustees must be able to identify one or more of the PRPs responsible for the release that caused the injury, to be able to make a claim for natural resource damages.

Look for hazardous substance releases that:

- Destroy or harm valuable BLM natural resources or services.
- Have been released over large areas via waterways, wind, or moving sources such as vehicles.
- Continue over extended time periods, i.e., days, weeks, months, or years, in terms of the rate of release, toxicity, pathways of exposure, or contaminant movement.

- Spread rapidly following the release.
- Are in locations that experience the secondary release of the contaminants.
- Leave residual environmental impacts following the cleanup that remedies human health concerns.
- Cause the death, sickness, or absence of important wildlife or plants, or that destroy ecological function by impacting important ecosystem components such as food chain levels.
- Contaminate water, sediments, soils, air, or vegetation.
- Cause the unavailability of resources to authorized users, either recreational or commercial.
- Impact endangered or threatened species, migratory birds, or cultural resources.

2. Discovery and Reporting

 If a trustee identifies or becomes informed of apparent injuries to natural resources resulting from an unreported release, the trustee should proceed in accordance with the NCP requirements outlined in this guide.

3. Trustee Notification

 CERCLA requires that response agencies promptly notify Federal and State natural resource trustees of potential damages to natural resources at sites under National Contingency Plan (NCP) investigation, and CERCLA Section 104 requires the coordination of the assessments, investigations, and planning with those trustees.

4. Actions in Natural Resource Emergencies

 The trustees may undertake limited emergency response and restoration actions to avoid further contamination and irreversible losses of natural resources, if the response agencies or PRPs do not take sufficient actions. For cost recovery purposes under the NCP and the NRDA regulations, the trustees may undertake only those actions that they can demonstrate are necessary to abate the emergency situation, and they must be consistent with the standards and requirements of the NCP and their agency authorities. The trustees may take other actions that they deem appropriate, but they might not be able to recover costs.

5. Identification of Co-Trustees

 The trustees should assist the response agencies in identifying other natural resource trustees whose resources may be affected, and who should be notified. The list of potential trustees includes the Secretary of the Interior, through the Regional Environmental Officer and other Department bureaus; the Secretary of Agriculture, through the Forest Service; the Secretary of Commerce, through the National Oceanic and Atmospheric Administration; the Secretary of Defense; the Secretary of Energy; the Governor of the State; and the heads of Indian Tribal Governments.

6. Coordination of Trustee Activities

 Early in the NRDA process, the trustee agencies and bureaus should establish a memorandum of understanding or agreement. This memorandum defines and coordinates roles and responsibilities, designates the authorized official, and facilitates the transfer of funding.

7. Coordination with Response Agencies

 Trustee activities should be coordinated as closely as possible with NCP activities to help assess the overall impacts of the release, share information, minimize information-gathering costs, and ensure that resource restoration is achieved along with remediation.

 - When NCP activities are planned or underway at a site, damage assessment activities should be coordinated with them as much as possible, consistent with the NCP.

 - In preparing damage assessment information, the trustees should consult with response and remediation agencies to use relevant information or materials that have been gathered for the On-Scene Coordinator's (OSC) Report, preliminary assessment, or remedial investigation/feasibility study.

 - If a trustee has an evaluation process other than a PAS that satisfies the information requirements of the PAS, that process may be used to avoid duplication.

8. Conduct of the Pre-Assessment Screen

 The PAS is the crucial evaluation and documentation that the trustees must prepare before beginning an NRDA. The PAS is a preliminary determination of whether circumstances warrant an

assessment, and whether the trustees can cost-effectively conduct an assessment. The trustees, in conducting a PAS, should focus only on resources for which they may assert trusteeship.

a. PAS Criteria: The trustees must gather information during the PAS that shows that each of the following criteria is met at the site before deciding to proceed with an assessment. The trustees must show that:

 - A CERCLA release of a hazardous substance has in fact occurred at the site.
 - Natural resources have been or are likely to have been adversely affected by the release.
 - The quantity and concentration of the released hazardous substance is sufficient to potentially cause injury.
 - Data sufficient to pursue an assessment are available or can be obtained at reasonable cost.
 - Any response actions carried out or planned do not or will not sufficiently remedy the injury to natural resources without further action.

b. Information about the Site: When conducting the PAS process, trustees should also consider available information about the site and release, similar to that which would be gathered for the NCP preliminary assessment:

 - The time, quantity, duration, and frequency of the release.
 - The name and quantity of the hazardous substances.
 - A brief history of the site, describing the causes of the release and completed or planned cleanup actions.
 - Relevant operations occurring at or near the site.
 - Additional hazardous substances potentially discharged or released.
 - The identity of potentially responsible parties (PRPs).

c. Pre-assessment Screen Sampling: At some sites, limited sampling may be needed to confirm the release, to identify the cause and level of impact, or to gather ephemeral data.

- All sampling and field work must comply with safety requirements (29 CFR 1910.120) and BLM's resource protection obligations.

- Field sampling and data collection at this stage should be coordinated with the lead response agency under the NCP to minimize duplication of sampling and data collection efforts.

- Field sampling may be conducted to obtain data or samples that would be lost if they were not collected as soon as possible, and that will be needed for deciding whether to proceed with an assessment. Such field sampling and data collection should be limited to:

 - Counts of dead or visibly injured organisms, which may not be possible if delayed because of factors such as decomposition, scavengers, or water movement.

 - Samples necessary to preserve perishable materials considered likely to have been affected by, and to contain evidence of, the hazardous substance.

 - Samples of other ephemeral conditions or material, such as surface water or soil containing or likely to contain a hazardous substance, where those samples may be necessary for identification and for measurement of concentrations, and where necessary samples may be lost because of factors such as dilution, movement, decomposition, or leaching if not taken immediately.

d. Preliminary Identification of Resources Potentially at Risk: During the PAS phase, the trustees gather information to preliminarily identify the natural resources at risk. They also estimate the natural resource services and uses that have been affected or potentially affected, and make a preliminary estimate based on information readily available from resource managers. The trustees:

 - Estimate exposure pathways of the hazardous substances.

 - Estimate areas exposed or potentially exposed, either directly or indirectly.

 - Estimate areas of ground-water or surface-water exposure.

 - Estimate concentrations of hazardous substances in potential exposure areas.

- Using these four estimates, identify all potentially affected resources.

9. Completion of PAS Decision and Document

When the trustees have determined that site characteristics meet the threshold PAS criteria and decide to proceed with a damage assessment, they report this decision in the PAS document.

The PAS document informs the PRPs of the trustees' basis for deciding to conduct an assessment. In the document, the trustees address how site characteristics have met the five PAS criteria and include limited site information (see 7 above) to support the rationale for the trustees' decision.

The PAS document need not identify all resources potentially injured or include all components of the eventual damages claim. A finding of a single resource exposure to a verified release is sufficient to proceed if the other criteria are also met.

The document should be written to reflect the trustees' actual knowledge of the site. They should not speculate about injuries for which there are no data substantiating that those injuries could have taken place. Injury allegations should be expressed in language that is general in nature.

10. "Notice of Intent"

The trustees must provide the identified PRPs with a "Notice of Intent" letter that expresses the trustees' decision to proceed with an assessment, and that includes the PAS document. The Notice invites the participation of the PRPs in planning and implementing the damage assessment. Through the attached PAS document, the Notice briefly describes the site or facility involved, the release of the hazardous substance that is of concern to the trustees, and the resources potentially at risk. The Notice also must contain a statement of the trustees' authority for asserting trusteeship, or co-trusteeship, over those natural resources identified as potentially at risk.

The trustees should try to identify PRPs, if the lead response agency under the NCP has not identified them. If the number of PRPs is large or if some PRPs cannot be located, the trustees may proceed against any one or more of the parties identified.

The trustees must allow the PRPs at least 30 days from their receipt of the Notice to provide PRP response to the Notice, before proceeding with formal development of the Assessment Plan.

11. Decision not to Conduct an NRDA

There are circumstances that may preclude trustees from pursuing an NRDA at a site. These include the failure of the site to meet the PAS criteria, PRP exclusions from liability for the release, the running out of the statute of limitations for trustees' filing an NRDA suit, or an agreement between the trustees and the PRPs.

a. Failure to Meet PAS Criteria: If the trustees determine that the site characteristics fail any of the PAS criteria, an assessment cannot be undertaken. This does not necessarily prohibit trustees from pursuing damages or a settlement agreement with PRPs to address resource injury concerns, if this can be done without the trustees incurring assessment costs.

b. Liability Exclusions: The information gathered during the PAS must indicate, if possible, whether there are exclusions from PRP liability for resource injuries. Do not conduct an assessment for any injuries or potential injuries that meet one or more of the following exemption criteria:

- The injuries resulting from the release were specifically identified as an irreversible and irretrievable commitment of natural resources in an environmental impact statement or other comparable environmental analysis, were committed under a permit or license authorizing such commitment of specific natural resources, and are at a facility or project that was otherwise operating within the terms of its permit or license.

- The release of a hazardous substance from which alleged damages resulted occurred entirely before the enactment of CERCLA (1980). (Note that the key to NRDA is when the *injury,* not the release, occurred.)

- The impacts resulted from the application of a pesticide product registered under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. 135-135k.

- The impacts resulted from any other federally permitted release, as defined in Section 101(10) of CERCLA.

- The impacts resulted from the release or threatened release of recycled oil from a service station dealer described in Section 107(a)(3) or (4) of CERCLA if such recycled oil was not mixed with any other hazardous substance and was stored, treated, transported, or otherwise managed in compli-

ance with regulations or standards promulgated pursuant to Section 3014 of the Solid Waste Disposal Act and other applicable authorities.

c. Statute of Limitations: There is a statute of limitations for doing NRDA that limits the time period within which trustees must file a natural resource damages suit against PRPs. This limits the time period within which trustees have legal standing to pursue damages. The clock starts ticking when a trustee first becomes aware of potential resource injury. (The filing of the actual claims for damages can be made later to meet the deadline set by the court.)

 The issue of injury awareness is contentious. If trustees are aware of hazardous substances released into the environment, and trustees know that these substances may have caused, or did cause, exposure of natural resources to injury, such awareness is likely to constitute knowledge of injury. On the other hand, simply being aware of a release and of the presence of natural resources in the area of the release generally would not constitute knowledge of injury.

 The statute of limitations is different for sites that are EPA-controlled (National Priorities List) sites versus sites that are not controlled by EPA (not on the List):

 - On NPL sites, a damages suit must be filed within 3 years of completing the record of decision that determines what the remedial actions will accomplish.

 - On other sites, a suit must be filed within 3 years of either (1) the time that the trustees become aware of natural resource injury or (2) the date of promulgation of the NRDA regulations for CERCLA releases by the Department of the Interior, whichever is earlier.

d. Agreement with PRPs: If, during the PAS phase or as a result of the PAS and Notice of Intent, the trustees are able to obtain cooperation from PRPs and reach a negotiated settlement for damages or restoration, then assessment activities may not be needed.

B. Assessment Phase: The assessment is a planned process of collecting, compiling, and analyzing information, statistics, or data through prescribed methodologies to determine damages for injuries to natural resources.

1. Assessment Plan

The assessment plan, which guides the assessment process, ensures that the assessment is performed in a planned and systematic manner and that the methodologies chosen involve reasonable costs for the estimated outcome, the amount of damages. In developing the plan, trustees should provide for the involvement and coordination of all affected trustees as well as the involvement of PRPs (43 CFR 11.32).

When the trustees perform the NRDA in accordance with the regulations in 43 CFR 11, the findings in the Report of Assessment have the force and effect of a rebuttable presumption, meaning that they are presumed to be correct in any judicial or adjudicatory administrative proceeding under CERCLA or section 311 of the Clean Water Act (CWA).

a. Assessment Plan Content: The Assessment Plan identifies and documents the use of all of the scientific and economic methodologies to be used during the assessment. It should have sufficient detail for evaluating whether the intended assessment approach is cost-effective and coordinated. Information should include:

- Descriptions of the natural resources and geographical areas involved.
- A statement of the trustees' authorities for asserting trusteeship.
- The results of the confirmation of exposure.
- The trustees' rationale for selecting the Type A or Type B assessment method.
- Detailed information on analyses to be used in the assessment. These details include:
 - The objectives of testing and sampling for injury or pathway determination.
 - A description of the scientific approach.
 - Analytical materials, methods, and protocols.
 - A quality assurance plan that meets NCP requirements and applicable EPA guidance.
 - A preliminary determination of the injured resource's recovery period.

- Descriptions of procedures and schedules for the sharing of data, sample splits, and results of analyses, when requested, with any identified PRPs and other natural resource trustees.

- Details of coordination between the assessment and NCP activities.

- The Restoration and Compensation Determination Plan, if data are available for the initial development of restoration alternatives and identification of procedures for evaluating their costs.

- Comments received from PRPs and the public during draft document reviews, and the trustees' responses to those comments.

b. Selection of Methodology: The trustees need to select between the Type A and the Type B assessment procedures to perform the NRDA, based on the characteristics of the site and suspected injuries, and on considerations of reasonable cost and cost-effectiveness. This selection process must be documented and included in the Assessment Plan.

(1) Type A assessments: These are simplified assessments performed using standardized procedures and computerized models. They can take less time and require less cost, but they also may be less accurate for specific site conditions. The trustees should select the Type A procedure if the release occurred in, or migrated into, a coastal, marine, or Great Lakes environment, and if the criteria listed in 43 CFR 11.33 are met, unless they determine that one or more of the conditions are not satisfied. Type A methodologies are *not likely to apply to most BLM sites*.

(2) Type B assessments: Type B assessments provide site-specific methodologies for conducting natural resource damage assessments for individual cases. For sites on BLM lands, the trustees are mostly likely to select the Type B methodologies. The PRPs can specifically request a Type B assessment if they jointly submit a written request documenting reasons why they feel it should be performed, agree to a time frame acceptable to the trustees in advance, and agree to pay for all reasonable assessment costs.

If there is a dispute among multiple PRPs as to whether a Type B procedure should be performed, the determination shall be made by the trustees.

If the trustees decide to perform a Type B procedure and they subsequently cannot confirm exposure, the trustees may not then re-select the Type A procedure.

c. Confirmation of Exposure: The trustees must include in the Assessment Plan a confirmation that at least one of the natural resources identified in the PAS as potentially injured has been exposed to the hazardous substance. Collection and analysis of new data are limited to that necessary to confirm exposure and shall not include testing for baseline levels.

Whenever possible, exposure should be confirmed using existing data, such as data collected during response activities or data from other studies of the assessment area.

Where NRDA sampling has been done before completion of the PAS, chemical analyses of those samples may be performed to confirm exposure. Analyses should be limited to the number and type required for confirmation of exposure.

Where existing data are insufficient to confirm exposure, the analytical methodologies provided in the Injury Determination phase may be used.

d. Preliminary Estimate of Damages: When performing a Type B assessment, the trustees must develop a preliminary estimate of damages (see 43 CFR 11.35). This estimate allows the trustees to evaluate the methodologies they will use for scientific analysis, cost estimation, and resource services valuation, to ensure that these assessment methodologies will be commensurate in scope to the anticipated damages and will be reasonable in cost.

The preliminary estimate of damages addresses the following:

- The anticipated costs of restoration, rehabilitation, replacement, and/or acquisition of equivalent resources for the injured natural resources.
- The compensable value of the injured natural resources, if the authorized official intends to include compensable value in the damage claim.
- An estimate of the anticipated cost of the assessment. The estimates of restoration cost and compensable value are based on the following:

- A determination of the ability of and the time required for the resources to recover naturally to baseline conditions.
- A range of possible alternative restoration actions.
- The effects of anticipated or completed response actions in restoring injured resources.
- The expected present value of anticipated direct and indirect restoration costs, expressed in constant dollars, and the timing of those costs.
- The compensable value through the recovery period, with and without possible alternative actions.
- A discount rate for projecting future and past costs.
- The present value of the estimated compensable value, accrued through the period from resource injury to restoration to baseline conditions.
- Use of the same base year for both restoration and compensable value.

The trustees should rely upon existing data and studies when making the preliminary estimate of damages. They should not undertake significant new data collection or new modeling efforts at this stage of the assessment planning phase.

The trustees should make the preliminary estimate of damages *before* completing the Assessment Plan. If there is insufficient existing data to do so, then the estimate must be made at the end of the Injury Determination phase. (See the section below on Type B assessments.)

The trustees must review, and revise as appropriate, the preliminary estimate of damages at the end of the Injury Determination phase and the Injury Quantification phase. If there is any significant modification of the preliminary estimate of damages, the trustees should document it in the Report of the Assessment.

The trustees are not required to disclose the preliminary estimate before the conclusion of the assessment. However, the preliminary estimate of damages, along with its assumptions and methodology, must be included in the Report of the Assessment that is written at the conclusion of the assessment.

e. Assessment Plan Review and Approval: The trustees must make the draft of the assessment plan, which will guide the assessment process, available for review. Reviewers include any identified PRPs, other natural resource trustees, other affected Federal or State agencies or Indian tribes, and interested members of the public. The trustees must allow a review period of at least 30 calendar days before implementing the plan. Comments and responses must be included in the final Assessment Plan document. Approval of the assessment plan contents and any modifications to the plan are at the discretion of the trustees.

Following approval of the plan, the trustees implement the assessment, consistent with the plan. If the trustees agree, PRPs may implement all or any part of the assessment plan, under the direction, guidance, and monitoring of the trustees.

Following the Injury Determination phase, and before the Quantification phase, the trustees again review the Final Assessment Plan. This review ensures that the methodologies for the Quantification and Damage Determination phases are consistent with the latest information from the Injury Determination, and that the use of the selected methodologies remains consistent with the requirements of reasonable cost.

The trustees may modify the assessment plan at any stage of the assessment as new information becomes available. If the trustees deem the modifications to be significant, implementation should be delayed until after 30 days of PRP and public review.

2. The Type B Assessment

The purpose of the Type B assessment is to employ specific assessment methodologies at sites that have complex injury characteristics, or that do not conform to the criteria for Type A model assessment methodologies. Type B assessments, which are guided by the assessment plan, culminate with a "Report of Assessment". The Report of Assessment informs the PRPs and the public of the determinations made in each assessment phase. It includes the assessment plan and review records, as well as PRP and public input.

There are three major assessment phases: Injury Determination, Injury Quantification, and Damage Determination.

a. Injury Determination: In the Injury Determination phase, the trustees determine whether an injury to one or more natural resources has in fact occurred, and whether the injury resulted

from a verified release of a hazardous substance, based upon the exposure pathway and the nature of the injury. This phase involves determination of the actual injury and exposure pathway found at the assessment area, using testing and sampling methods described in or consistent with the regulations. If more than one resource has potentially been injured, the trustees should conduct an injury determination for each resource. The Injury Determination phase ensures that the later phases of the NRDA assess only those injuries caused by verified releases.

(1) Injury Definition: The trustees determine whether the potentially injured resource constitutes a surface-water, ground-water, air, geologic, or biological resource (see 43 CFR 11.14). The trustees then evaluate site information or plan studies (see 43 CFR 11.63, 11.64) that will permit evaluation of information about the potentially injured resources. Use the injury definitions in 43 CFR 11.62 to determine if resources are injured.

As part of the trustee group, BLM is concerned about both renewable and nonrenewable resources on public lands, as well as the subsurface mineral estate. These concerns include the public lands and the fish, wildlife, biota, air, water, ground water, drinking water supplies, vegetation, trees, soil, wetlands, other habitats, and fluid and solid minerals on or under the public lands, as well as the federal mineral estate under split-estate lands. BLM also has authority to protect scenic, recreational, cultural, and scientific values on public lands, including all of the services provided by the natural resources listed above.

(2) Sampling and Testing: The trustees select one or more appropriate testing and sampling methodologies for determining injuries, in accordance with the procedures identified in the regulations (see details in 43 CFR 11.64). Other procedures may be used only if they are consistent with and meet the requirements of the procedures in the regulations (see 43 CFR 11.64) for the resource(s) potentially injured.

Before selecting methodologies, the trustees need to define the objectives to be achieved by testing and sampling. The objectives have to be listed in the Assessment Plan. In developing these objectives, consider all of the following:

- The availability of information from NCP response actions relating to the release.

- The magnitude of resources exposed.
- The characteristics of the hazardous substance(s).
- Potential physical, chemical, or biological reactions initiated by the release(s).
- The potential exposure, the pathway of exposure, and the potential for injury resulting from that pathway.
- The workability of the methodology under actual site conditions.
- The need for the methodology to produce data that are otherwise unavailable for making injury determinations.
- The criterion of reasonable cost relative to the magnitude of potential injury, along with the cost-effectiveness of the methodologies under consideration.
- The need for the methodology to produce data that are consistent with data requirements of the Quantification phase.

(3) Pathway Determination: The trustees need to determine the route(s) of exposure through which the hazardous substance is being or has been transported from the source of the release to the injured resource, in accordance with regulations (see 43 CFR 11.63).

The following factors must be considered in determining the exposure pathways of the hazardous substance:

- The chemical and physical characteristics of the hazardous substance(s) when transported by natural processes or while present in natural media.
- The rate or mechanism of transport by natural processes of the released hazardous substance(s).
- Combinations of pathways that, when viewed together, may have transported the released hazardous substance(s) to the resource(s).

The pathway may be determined by (a) demonstrating the presence of the hazardous substance in sufficient concentra-

tions in a resource that functioned as a route, or (b) using analyses to demonstrate that the conditions existed in the route and with the hazardous substance such that the route served as the pathway.

If adequate information to make this determination is not available, tests should be conducted and the needed data collected using methods described in 43 CFR 11.64.

(4) Completion of Injury Determination Phase: Upon completion of this phase, the trustees review the Assessment Plan in light of the newly acquired injury information to ensure that the Plan (a) properly addresses injuries and (b) continues to provide for an assessment at a reasonable cost and maximum cost-effectiveness.

If the trustees determine that one or more natural resources have been injured as a result of the release, then they may proceed to the Injury Quantification and Damage Determination phases.

If the trustees determine that an injury has *not* occurred to at least one of the natural resources, or that an injury has occurred but it cannot be linked to a release, then the trustees do not pursue further assessment activities.

b. Injury Quantification: The purpose of Injury Quantification is to quantify the effects of the release on injured natural resources. Whereas, under the NCP, the remedial investigation/feasibility study generally identifies what, how much, and where the released contaminants are, this NRDA phase quantifies the magnitude of injury, in terms of the entire resource injury and loss of services that the injured resource would have provided, had the release not occurred.

To accurately quantify injury, the trustees first determine what the baseline resource conditions would be. Then, using this baseline as the point of reference, the trustees describe the reductions in the quantity and quality of the injured resources, as well as the kinds and quantities of services lost because of the resource injury. They also estimate the time period for resource recovery. The focus of this phase is on developing information to support the selection and design of restoration options, as well as on documenting compensable losses.

(1) Estimation of Baseline: The Trustees estimate the baseline condition of the natural resources and identify baseline services that would have been provided by the resource (see definitions and 43 CFR 11.72). To describe baseline conditions, the trustees should collect data that fully reflect conditions at the site that would have existed without the release, taking into account both natural processes and those resulting from human activities. It may be necessary to use historical data. Data should:

- Include the normal range of physical, chemical, or biological conditions for the assessment area or injured resource (causes of extreme or unusual data values should be described and explained).
- Be accurate, precise, complete, and representative of the resource.
- Be similar in degree of detail to the data used or obtained for injury determination.
- Be only those data necessary for conducting the assessment at a reasonable cost, including historical data.

Data collected, whether from on-site or from a control area off-site, must closely represent on-site conditions. A control area that is off the site may be used only if:

- The differences between on-site characteristics and control site characteristics are significantly less than the differences between the on-site pre-release and post-release characteristics.
- The trustees determine that full baseline characterization is not technically feasible or is not cost-effective, and that the available baseline data are as close to the actual baseline conditions as can be obtained, subject to these limitations.

(2) Injury Measurement: The trustees measure the extent of the injury (see 43 CFR 11.71) by determining the:

- Total area, volume, or numbers affected for the resource in question.
- Proportion of the available resource in the area that is affected.

- Services normally provided by the resource that have been foregone because of the release.

(3) Determination of Resource Recoverability: The trustees need to determine the natural recoverability of the injured resource to baseline conditions (see 43 CFR 11.73). The information must include:

- The amount of natural recovery time necessary, if no restoration actions were taken beyond NCP response actions.
- If natural recovery is not feasible, information explaining this finding.

(4) Estimation of Services Reduction: The trustees also need to estimate the reduction in services that has resulted from the release. BLM resource service reductions could include lost opportunities for public recreation, decreased access for resource use, or lost opportunities for resource development.

c. Damage Determination: This third phase of the Type B assessment establishes the monetary damages for resource injuries identified and quantified earlier. Damages include the actual costs of the restoration, as well as the compensable value of all or part of the services lost to the public, from the time of the release until the time that the injured resources and lost resource services are restored to baseline. This phase involves identifying specific alternatives to restore resources and includes descriptions of their costs and time frames, allowing the damages that would be needed to carry out each alternative to be determined.

Finally, the trustees choose what they deem is the most desirable restoration alternative, along with its related costs and associated compensation damages, from among the alternatives identified. This information is compiled in the Restoration and Compensation Determination Plan.

(1) Development of Restoration and Compensation Alternatives: The trustees must develop a set of possible alternatives for restoration and select the most appropriate one (see 43 CFR 11.82), in preparing the Restoration and Compensation Determination Plan. The range of restoration alternatives should encompass differing levels of restoration work, resulting in differing time periods to complete restoration,

and thus differing periods of interim lost services and compensation costs. Trustees should design a set of alternatives that:

- Return injured resources to baseline condition.
- Range from natural recovery/no action to intensive action, resulting in varying restoration costs and times of recovery to baseline.
- Consider reasonable cost; cost-effectiveness; consistency with other laws, standards, and policies; a comparison of the actions' expected result with what would occur under natural recovery; and the potential for additional injury from the action itself.

(2) Estimation of Restoration and Compensation Costs: The trustees identify and apply economic methodologies for estimating restoration costs and placing values on lost services for each alternative. These data are then used to calculate damages (see 43 CFR 11.83).

The costs for restoration should include all costs related directly to doing the restoration work. Restoration costs should include, but not be limited to, costs to complete discrete projects; for example:

- Specific or discrete measures, e.g., replacing vegetation, soils, or habitat components, or providing public resource-use facilities.
- Iterative or long-term projects, e.g., re-establishing ecological function in injured habitats.
- Institutional costs associated with protecting natural resources during recovery and restoration periods.

The costs of compensation for lost service values should include only those actual uses that would have existed and continued, had the release not occurred. Service losses deserving compensation would be those losses that began at the time of the release, that have continued through the time of the assessment, and that will continue until some time in the future when the service is restored to baseline.

(3) Restoration and Compensation Determination Plan: The trustees develop the Restoration and Compensation Deter-

mination Plan (RCDP) to evaluate restoration alternatives (see 43 CFR 11.82, 11.83, and 11.84 for guidance on plan development). Development of the RCDP takes place during the damage determination phase, if it was not developed earlier during the assessment planning process. The RCDP contains:

- Descriptions of each of the alternatives considered for restoration of injured natural resources, including specific actions within each.
- Descriptions of the resulting resource service losses associated with each restoration alternative, based on the differing levels of restoration effort and time to completion prescribed by the alternatives, and the differing interim periods of loss.
- Selection of a preferred alternative to implement restoration.
- The methodologies used to determine the costs of the selected alternative.
- The compensable value of the services lost to the public associated with the selected alternative.
- The rationale for selecting that alternative. The selection should be based on the promptness of restoration, cost of the restoration actions versus the time to completion, the amount of compensation associated with the interim lost services, and other similar factors.

(4) Plan Review: The trustees must submit the Restoration and Compensation Determination Plan to the PRPs and the public for review, if it has not been reviewed previously as part of the Assessment Plan. The RCDP and the review comments from PRPs and the public are included in the Report of Assessment.

C. Post-Assessment Phase

The Post-Assessment Phase allows the trustees to report the findings of the assessment to the PRPs and the public, plan the restoration, obtain and manage the damages, and implement the final restoration plan. The specific components of this phase are the Report of Assessment, the demand, the establishment of the restoration account, the Restoration Plan, and Restoration Plan implementation.

The damages that are received by the trustees, either through litigation or negotiated settlement, must be used exclusively on the specific project. Funds should be placed in an interest-bearing account and efficiently used to maximize restoration benefits.

1. Report of Assessment

 At the conclusion of either a type A or type B assessment, the trustees prepare a Report of Assessment that contains:

 - The Pre-Assessment Screen determination.
 - The entire Assessment Plan, including the Restoration and Compensation Determination Plan if completed at this stage.
 - The findings of the Type A or the Type B assessment. For Type B, this includes the results of the:
 - Injury Determination phase.
 - Injury Quantification phase.
 - Restoration and Compensation Determination Plan.
 - Damage Determination phase, in which the trustees determine the damages based on their selected restoration alternative.
 - All public and PRP review comments, along with trustee responses.

2. Demand and PRP Response

 Once the selected restoration alternative has been finalized after PRP and public review and comment and its total costs have been established, the damages claim is made. The trustees, through the Solicitor and with representation from the Department of Justice, present the PRPs with a demand in writing for the total damages, which includes the damages determined in the assessment for restoration and compensation, as well as the costs of the assessment itself.

 The demand letter:

 - Identifies the trustees asserting the claim.
 - Identifies the general location and description of the injured resources.
 - Identifies the type of discharge or release determined to have resulted in the injuries.

- Identifies the damages sought in the three cost categories: restoration, compensation, and assessment.
- May include a notice of intent to file suit against the PRPs.
- Includes the Report of Assessment as an attachment.

Before the trustees can file suit, they must provide the PRPs with at least 60 days from the date the PRPs receive the demand letter to acknowledge and respond to it.

3. PRP Response to Demand Letter

The PRPs may respond basically in one of two ways to the trustees' demand letter:

- Settlement: PRPs may offer to negotiate a settlement with the trustees if, for example, they consider the assessment conclusions to be reasonable. This could very well be the case if the PRPs have participated in the assessment process; the trustees would normally proceed with settlement discussions. However, if the trustees have conducted the assessment without the PRPs choosing to be involved, this outcome is unlikely; the PRPs probably would have approached the trustees at an earlier time if they had been interested in pursuing a settlement or participating in the assessment.
- Litigation: The PRPs may decline to cooperate, leading to the trustees filing the damages claim in court, through the Solicitor and the Department of Justice. This is the likely outcome if the trustees have found it necessary to conduct the assessment without PRP involvement.

 The trustees should be prepared to negotiate a settlement if costs for litigation can be avoided, and time can be saved in achieving restoration. The smaller the damages claim, the less likely that the government's costs of litigation will be warranted.

 Settlements typically result in outcomes that are not ideal for either side, but which both sides find are acceptable. A useful trustee strategy in negotiating settlements is to identify those components of the claim that are least important. Compensable damages often are considered less critical than "on-the-ground" restoration. Note that the costs of the assessment, particularly if the assessment was funded by the DOI NRDAR Fund, are *not* negotiable and must remain part of the final settlement.

4. Restoration Account

 All sums of the damage claim that the federal trustees recover are retained by the trustees, without further appropriation. They are placed in a separate, interest-bearing account, sometimes called a court registry account. The funds are restricted to reimbursing the DOI NRDA Fund for all past assessment costs at the specific site, and to carrying out actions that implement the Restoration Plan. Expenditures are determined by the trustee group.

5. Restoration Plan

 When the trustees know the amount of the award for natural resource damages, they prepare the draft Restoration Plan (see 43 CFR 11.81). The plan should explain how the restoration alternative selected in Restoration and Compensation Determination Plan, and presented in the Report of Assessment, will be implemented.

 The Plan describes how the monies will be used to address natural resource injuries, specifically what restoration actions will be conducted. When damages for compensable value have been awarded, the Plan also describes how monies will be used to address the services that have been and will continue to be lost to the public until restoration is completed.

 The trustees may modify the Restoration Plan if changes become necessary as restoration proceeds. Significant modifications must be made available for review by the PRPs, any affected natural resource trustees, other affected Federal or State agencies or Indian tribes, and any other interested members of the public for a period of at least 30 days, with reasonable extensions granted as appropriate, before tasks called for in the modified plan are begun.

6. Restoration Implementation

 This is the final step, and the whole point of the NRDA process. The most important and ultimate goal of NRDA is to complete the planned restoration work, using the money obtained through the damages claim.

 The restoration actions include both actually restoring the injured resources, and compensating the public for lost services by improving or replacing access to those services. The third part of the damages claim, reimbursement of the DOI NRDAR Fund, is also completed at this time.

In completing the restoration work, the trustees must follow the Restoration Plan, once it has been reviewed by the PRPs and public. Remember that significant modifications that the trustees may wish to make will require another review process.

Keep in mind that the restoration actions funded by the restoration account may be supplemented by interested parties other than the PRPs. Individuals or groups may be willing to match funds or contribute work to assure the success of restoration.

CHAPTER VII

Pollution Abatement Planning (Funding Needs) (Reserved)